The JOURNAL *of* VENEREAL DISEASE INFORMATION

(*Formerly* VENEREAL DISEASE INFORMATION)

Volume 26 July 1945 Number 7

EDITORIAL 149

ORIGINAL ARTICLES

Clinical Action of Penicillin on the Uterus 150
Herbert M. Leavitt, *Passed Assistant Surgeon* (R)

Outpatient Penicillin Therapy of Sulfonamide Resistant Gonorrhea . 153
William F. Fidler, *Passed Assistant Surgeon* (R)

The Chicago Intensive Treatment Center Adopts a Mechanized System of Patient Follow-up 156
Herman N. Bundesen, M.D.
Theodore J. Bauer, *Senior Surgeon*
Edwin C. Sittler, *Passed Assistant Sanitarian* (R)

CURRENT LITERATURE 158

52.9
26/7

Federal Security Agency
UNITED STATES PUBLIC HEALTH SERVICE

FEDERAL SECURITY AGENCY

UNITED STATES PUBLIC HEALTH SERVICE

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Approved by the Director, Bureau of the Budget, as required
by Rule 42, of the Joint Committee

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UNITED STATES GOVERNMENT PRINTING OFFICE, WASHINGTON: 1945

For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C.
Price 10 cents. Subscription price, 75 cents a year

A Service for Research Workers

In this issue we are instituting several changes in the section devoted to stracts of the current literature. We have, in the past, attempted to abstract publication only articles of general importance. Unfortunately, this has sulted in the exclusion of many articles and reports which, while somewhat rrower in scope, were nevertheless of value to those working in the field. e believed, therefore, that some method should be devised whereby knowl- ge of such articles be provided our readers.

The following plan has been adopted. All journals reviewed are listed phabetically, and the title, author, and page number of all articles useful workers are noted. We abstract for publication only such articles as we lieve constitute real contributions and are of potential interest to a large dience. It is intended that these summaries give most of the major points vered in the original. All other articles relating to the field of venereal sease, and this is not limited to those listed in this journal, are to be stracted and become a part of our files. Copies of these abstracts are ailable on request.

This latter service is a continuation of a long established policy. A reference every article or report in the field of venereal disease that has appeared any of the better known journals both here and abroad since 1920 is to e found in the card files of the Venereal Disease Division of the United tates Public Health Service. Moreover, each reference carries, if only briefly, summary of the original article. The files constitute a considerable body f information, and, to facilitate their use, the abstracts are arranged by ubject as well as by author, with numerous cross references. These abstracts re available to correspondents on request; or the files themselves are open those who may find it convenient to apply in person. It is hoped that in he future, workers in the field in increasing numbers will avail themselves f this service.

—The Editors

Clinical Action of Penicillin on the Uterus

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Since the discovery of the valuable antibacterial properties of penicillin and its use as a therapeutic agent, the quantity of literature concerning the drug has been enormous. Much has been said concerning the wide variety of side effects and reactions produced by penicillin therapy. The remarkably few serious reactions noted thus far have been the subject of much comment. In many cases the large number of minor effects noticed in the early days of penicillin therapy are now believed to be due not to the penicillin itself but to impurities contained in the commercial product.

During the past year large quantities of penicillin have been used in the treatment of syphilis and gonorrhea by various special investigators and in the many rapid treatment centers operated by individual States or by the U. S. Public Health Service. The effect of penicillin in inducing premature menstruation or in prolonging menstruation already started has been the subject of comment by several of the doctors contributing to the Bulletin of the Rapid Treatment Centers *(1)*, an informal periodical edited by Dr. U. J. Wile, Medical Director (R), U. S. Public Health Service, containing clinical observations by the various medical officers in charge of rapid treatment centers. Lentz, Ingraham, Beerman, and Stokes *(2)* noted 2 cases of threatened abortion following penicillin therapy for syphilis in pregnant women. They interpreted this reaction as "a form of therapeutic shock (Herxheimer reaction)." They inferred that this reaction was peculiar to patients having previously untreated syphilis and was not due to any specific action of penicillin.

The action of penicillin in stimulating uterine contractions and bleeding in pregnant women was manifested very forcefully at the New Mexico Intensive Treatment Center about 16 weeks ago, when during the same 2-week period, 2 patients had complete abortions immediately following the use of the drug. This caused us to review the records of all pregnant women treated with penicillin at this center for syphilis, gonorrhea, or both diseases up to Dec. 1, 1944. The accompanying table represents a summary of this survey. The results may be stated briefly as follows:

1. Of 21 pregnant patients treated with penicillin, 8 manifested symptoms of uterine activity. These symptoms were uterine cramps, bleeding, or both.
2. Of 8 patients showing uterine symptoms, 2 evacuated the contents of the uterus in spite of attempts to put the uterus at rest by the use of morphine or progestin.

Our records were studied carefully to determine the percentage of incidental uterine symptoms in pregnant patients undergoing therapy other than penicillin at this center. During the period Feb. 7, 1944, to Dec. 1, 1944, 25 pregnant patients received therapy other than penicillin for gonorrhea, syphilis, or both diseases. Medications given consisted of intensive courses of mapharsen, using the multiple syringe technic, and oral sulfathiazole. Our records show that 2 of this group complained of slight low pelvic cramps without bleeding.

As compared with the above group, the number of pregnant patients treated with penicillin who demonstrated uterine symptoms, 8 out of 21 (38.1 percent), is very significant. The oxytocic action of ergot, a biologic product of another mold (Claviceps purpurea) is well known. Is it not possible, therefore, that the mold Penicillium may have similar activity but much weaker in intensity? It is true that the relationship between the 2 fungi is not too close, according to mycologists. Henrici *(3)* classifies Claviceps purpurea with the

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Pregnant patients treated with penicillin June 28, 1944–Dec. 1, 1944

Patient	Age	Duration of pregnancy	Total dose of penicillin	Diagnosis*	Penicillin lot number	Uterine symptoms immediately following onset of penicillin therapy
	Years	*Months*	*Units*			
B.	28	7	150,000	GC	A	Cramps every 5 minutes
C.	28	6	2,400,000	S & GC	A	
M.	20	2	150,000	GC	A	
M.	19	2	2,400,000	S & GC	A	
.S.	27	3	150,000	GC	A	
V.	18	3	2,400,000	S	A	
D.	16	8½	600,000	S & GC	B	
.K.	32	4	150,000	GC	B	
.W.	23	3	150,000	GC	B	
.D.	22	2½	150,000	GC	C	
G.	21	3	150,000	GC	C	Complete abortion
.G.	21	5	2,400,000	S & GC	C	
.W.	21	2	150,000	GC	C	Complete abortion
B.	18	4	150,000	GC	C	Cramps, uterine bleeding
.T.	19	2	150,000	GC	C	Cramps, spotting
P.	20	1½	150,000	GC	C	Cramps, bleeding
.C.	19	6½	150,000	GC	C	Cramps
.P.	19	6½	150,000	GC	C	
.M.	16	8	600,000	S & GC	C	Spotting
.A.	15	8	150,000	GC	C	
I.G.	15	3	150,000	GC	D	

* S—Syphilis.
GC—Gonorrhea.

scomycetes. The genus Penicillium, how-ver, belongs to the fungi imperfecti. The ue relationship between these 2 great lasses of fungi is not clearly defined. From me to time perfect forms of fungi im-erfecti are discovered and then the species re removed from the class of fungi imper-ecti and placed in their proper group in ie Ascomycetes.

The probability that the previously de-cribed clinical action of penicillin on the terus may be due to an impurity in the enicillin is suggested by the fact that of ie 8 cases in which symptoms occurred, 7 ere treated with the same lot of penicillin uring the months of October and Novem-er 1944. Four other pregnant patients eated with penicillin of the same lot iled to manifest unusual symptoms. We ave used penicillin made by 3 other manu-acturers during the period included in this urvey. Of 10 pregnant patients treated with the penicillin of these 3 lots, only 1 atient showed symptoms.

The effect of penicillin on menstruation has been repeatedly brought to my attention by the patients themselves and by the nursing staff. In some cases, patients who were admitted with a history of delayed menstruation promptly began to bleed soon after administration of the drug. Other patients bled for longer periods of time than normal and stated that the flow was more profuse than usual. Others complained that they had just completed menstruation, perhaps a week before, and began bleeding again as soon as penicillin was started.

It is realized that a careful, scientific study of the effect of penicillin upon menstruation should include a large series of patients and should be conducted with adequate controls to rule out the element of coincidental menstruation. Nevertheless, it is felt that some corroboration of clinical impressions may be obtained from a rapid survey of the records of all adult female patients of menstrual age treated with penicillin in order to determine any possible relation between the date of onset of therapy and the date of onset of menstruation.

Two-hundred and six mature female patients are included in this survey. These patients were treated at this center with penicillin for syphilis, gonorrhea, or both diseases, during the period Apr. 15, 1944, to Dec. 1, 1944. Of this number, 33 patients were treated for gonorrhea, using a regime of 100,000 units of penicillin administered in doses of 10,000 units every 3 hours for 30 hours. Following the suggestion of the U. S. Public Health Service in Supplement 5A entitled "Medical Procedures for Use in the Treatment of Syphilis and Gonorrhea in Rapid Treatment Centers" issued by the Venereal Disease Division, 135 patients were treated with 150,000 units of penicillin for gonorrhea. This latter regime was administered in doses of 20,000 units every 3 hours for 7 doses, followed by 10,000 units as an eighth dose. The use of penicillin as a therapeutic agent in the treatment of syphilis was begun at this center on June 28, 1944. Twenty patients were treated on a regime of 2,400,000 units administered in doses of 40,000 units every 3 hours for 60 consecutive injections. Eighteen patients have been treated subsequent to September 1 on a regime of 600,000 units of penicillin administered in doses of 10,000 units every 3 hours for 60 consecutive injections together with adjuvant mapharsen and bismuth therapy.

A survey of our records shows that 17 patients treated with penicillin menstruated during the first 24-hour period following the onset of penicillin therapy. These patients were not menstruating upon admission, or before the penicillin therapy was begun. All of these patients with a single exception received 150,000 units of penicillin or less. The significance of this figure may be explored as follows:

1. The average female patient of menstrual age may be expected to menstruate once during any 28-day period.

2. Of 206 patients included in this survey, 206 divided by 28, or 7.4 may be expected to menstruate during any given 24-hour period.

3. Seventeen patients menstruated during the 24-hour period immediately following the onset of penicillin therapy.

4. The conclusion to be derived from this survey is that more than twice the expected number of patients menstruated as a result of penicillin therapy.

As a control survey, our records were examined for the same period as the previous survey (Apr. 15, 1944, to Dec. 1, 1944) in order to determine how many women o menstrual age treated by methods not including penicillin menstruated during the first 24 hours of therapy.

Two hundred and fifty-three patients were treated in this latter group. Of this number, 7 women menstruated during the initial 24 hours of treatment. In a group of this size 9 patients would be expected to menstruate during the first 24 hours. The treatment methods used on these patients included oral sulfathiazole, intramuscular milk injections, and/or mapharsen in a series of 20 daily injections.

SUMMARY

1. Of 21 pregnant patients treated with penicillin, 8 manifested such symptoms o uterine activity as cramps or bleeding.

2. Of 8 patients showing uterine symptoms, 2 had complete abortions.

3. Seven of the 8 patients showing uterine symptoms were treated with the same lot of penicillin. This may sugges that the above action of penicillin on th uterus may be due to an impurity and no to the penicillin itself.

4. The action of penicillin in initiating menstruation is noted in a series of 20 mature female patients of menstrual age.

5. Seventeen of these patients menstruated during the first 24-hour period following the administration of penicillin. This is more than twice the number o patients in this group expected to menstruate during any given 24-hour period.

6. In a control survey of 253 mature female patients of menstrual age treated by methods not including penicillin, 7 women menstruated during the first 24-hour period following onset of therapy. This is less than the number of patients in this group expected to menstruate during any given 24-hour period.

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Outpatient Penicillin Therapy of Sulfonamide Resistant Gonorrhea

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The efficacy of penicillin in the treatment of gonorrhea was established early in the clinical study of the drug. However, treatment schedules covered relatively long periods of time, the drug being given at either 3- or 4-hour intervals, or by continuous intravenous drip. In April 1944, Cohn, Studdiford, and Grunstein (*1*) published studies on the relatively rapid treatment of gonorrhea in females. The treatment period ranged from 3 to 12 hours, injections being given at 3-hour intervals with a total dosage of 50,000 to 100,000 units. A failure was observed in 1 patient who received 50,000 units administered in 3 hours. The Army has been using a schedule of 100,000 units given over a 12-hour period with a 3-hour interval between doses.

In July 1944, Miller, Scott and Moeller (*2*) reported using 100,000 units at intervals of 5 or 6 hours in 14 patients with no failures. In August 1944, Van Slyke and Steinberg (*3*) reported a group of 43 male patients receiving 125,000 units in 7½ hours with a cure rate of 86 per cent, but there was considerable likelihood of reinfection rather than relapse having affected the rate of cure. Cohn, in his discussion of Sternberg and Turner's paper (*4*) has mentioned the 4-hour treatment of 20 men with 40,000 units followed by 2 injections of 30,000 units, with no failures. This schedule approximated the one presented below.

Herrell, Nichols, and Heilman (*5*) have pointed out the desirability of a sustained blood level and have shown that intramuscular injections every 3 hours fail to maintain it. It has also been shown in another study (*6*) that, following an intramuscular injection, penicillin disappears from the blood in 2 to 2½ hours. It was thought, therefore, that a more constant blood level and, at the same time, a shortened treatment period could be attained by decreasing the interval between injections.

Romansky and Rittman (*7*) have recently reported a single injection treatment, securing prolonged action by the intramuscular injection of penicillin in a beeswax-peanut oil mixture. This, however, is difficult to prepare from many lots of penicillin which we have received in a coarsely divided or cake form. More recently, Trumper and Hutter (*8*) have obtained prolongation of the action of penicillin by chilling the site of injection for a period of 2 hours prior to and 6 to 12 hours after injection. This, however, is not practicable for outpatient clinic or office practice.

In June 1944, a number of patients with sulfonamide resistant gonorrhea were admitted to the clinic. A 12-hour schedule of penicillin therapy was in use at a nearby Army post. However, our clinic is situated in a small town with no available hospitalization, and the staff and physical facilities in the clinic itself are such that this schedule of treatment is precluded. Therefore, with the above facts in mind, we began to treat these sulfonamide resistant patients on an 8-hour schedule, giving 20,000 units of penicillin intramuscularly every 2 hours for 5 doses.

Considerable difficulty was encountered in holding patients for an 8-hour period because of inadequate and uncomfortable waiting rooms. Therefore, when it was observed that 8 patients successfully treated on this schedule showed negative cultures within 4 hours from the beginning of treatment, we decided to try a 4-hour schedule, consisting of a total of 100,000 units of penicillin given in 3 doses of 33,333 units each, 2 hours apart. The penicillin was made up in a concentration of 10,000 units per cubic centimeter. Thus, each injection consisted of 3.3 cc. and any excess remaining in the 100,000-unit vial was included in the last injection, thus insuring a total dosage of 100,000 units for each patient. The following report deals with the results obtained with this schedule.

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[1] From the Venereal Disease Clinic, Christian County Health Department, Hopkinsville, Ky.

In all patients, the diagnosis was established by positive culture, and sulfonamide resistance was determined by clinical trial only in 34 cases, by growth in sulfonamide media (*9*) only in 10 cases, and by the combination of the two above methods in 10 cases. The following culture technic was used. Material was taken on sterile cotton swabs, immediately placed in test tubes containing about 0.5 cc. sterile 2 percent proteose peptone No. 3 in 0.45 percent saline, and kept at or below 40° F. until streaked on plates 4 to 8 hours later. Culture material from each female patient was pooled in a single tube, being obtained from the cervix (after massage between blades of the bivalve speculum) and from the urethra (after stroking). Cultures for diagnosis of male patients were obtained from urethral discharge, but all cultures for test of cure were made from prostatic fluid or from urinary sediment (voided after prostatic massage) when fluid did not appear at the urethral meatus. The culture medium consisted of proteose peptone No. 3 chocolate agar (Difco). After inoculation, plates were incubated 48 hours in a candle jar, sprayed with 1 percent solution of para-aminodimethylaniline monohydrochloride ("oxidase" test), and slides, prepared from the "oxidase-positive" colonies, were gram-stained. A gram-negative diplococcus of typical morphology was considered to be the gonococcus. Subcultures were not made.

Altogether, 54 patients were treated according to the schedule outlined. Table 1 gives the diagnoses on admission to penicillin treatment.

TABLE 1.—*Diagnoses of 54 patients with sulfonamide resistant gonorrhea*

Diagnosis	Number of cases
Urethritis alone	9
Uncomplicated urethritis and cervicitis	32
Epididymitis	1
Acute prostatitis	4
Acute arthritis	5
Acute pelvic inflammatory disease	2
Bartholinitis	1
Total	54

The longest duration of disease based on the onset of symptoms, or, if asymptomatic, on the first known positive culture, was 14 months, the shortest, 4 days.

The distribution by race, sex, and age is given in table 2. Patients ranged in age from 9 to 54 years; 16 were male and 38 female; the group was equally divided as to race.

The criterion of cure was defined as 3 consecutive negative cultures over a minimum of 21 days. This time limit was chosen because most failures have been shown to occur within such a period (*4*).

Of the 54 patients treated, 2 have been lost from observation and 4 have been transferred to clinics without facilities for making cultures. An additional 6, al-

TABLE 2.—*Race, sex, and age distribution of 54 patients with sulfonamide resistant gonorrhea treated with penicillin*

Race	Sex	Age (years)						
		Under 10	10-19	20-29	30-39	40-49	50 & over	Total
ite.	Male.	. . . . .	2	8	. . . . .	1	. . . . .	11
	Female.	1	5	9	1	. . . . .	. . . . .	16
	Total.	1	7	17	1	1	. . . . .	27
gro.	Male.	. . . . .	1	1	2	. . . . .	1	5
	Female.	. . . . .	8	9	4	. . . . .	1	22
	Total.	. . . . .	9	10	6	. . . . .	2	27
otal.	Male.	. . . . .	3	9	2	1	1	16
	Female.	1	13	18	5	. . . . .	1	38
	Total.	1	16	27	7	1	2	54

ugh both bacteriologically and clinically gative at the time of this report, have t, as yet, satisfactorily completed the cessary observation period to satisfy the terion of cure.

Thus, there are 42 patients treated on the our schedule in whom adequate follow- has been made. Forty (95 percent) of se satisfied the above criterion of cure. Two patients were classified as failures. th were young, white men with uncom- cated urethritis whose symptoms re- rred, and whose cultures became positive the fourth and fifth posttreatment days, spectively. No explanation for the fail- es can be offered. Retreatment with 5 jections of 33,333 units at 2-hour inter- ls was successful in both, giving a 100 rcent rate of cure.

All patients remaining under observation came free of symptoms of the disease. ne patient with arthritis has been lost om observation; all other complications eared up rapidly. Urethral discharge, ucoid in nature but bacteriologically nega- ve, sometimes occurred in the male tients for 4 to 5 posttreatment days. either previous treatment nor duration the infection seemed to affect the re- lts.

There was no evidence of toxicity. The ly complaint made by patients was of casional soreness and pain at the site of jection. This, however, lasted only a few inutes. Our first few patients, who re- ived penicillin in distilled water, seemed have more discomfort than subsequent ones, who received the material in a normal saline solution.

If the rate of cure in so small a series can be considered significant, it would seem that nothing could be gained in public health clinics or in office practice by extending the treatment period to 12 hours, with which a cure rate of only 96 percent was achieved (*4*). A 12-hour schedule entails hospitalization, increased personnel and expense and inconvenience to the patient, particularly if he has to go to a distant treatment center. Retreatment of the occasional failure, which in the present series proved to be 100 percent effective, would be much less expensive.

SUMMARY

1. From the experience of other investigators, it would seem that a greatly shortened penicillin treatment schedule for gonorrhea is effective.

2. A 4-hour schedule, consisting of a total of 100,000 units of penicillin given in 3 doses of 33,333 units each at 2-hour intervals, was instituted for patients with sulfonamide resistant gonorrhea.

3. Complications were seen in 13 of the 54 patients treated.

4. The patients varied widely as to age: 16 were male and 38 female; 27 were white and 27 Negro.

5. Of the 42 cases followed, 95 percent satisfied the established criterion of cure, 3 consecutive negative cultures over a minimum of 21 days after the first treatment.

6. The 2 failures were cured by retreatment, giving a rate of cure of 100 percent.

7. All complications cleared up rapidly.

8. Neither previous treatment nor duration of infection seemed to affect the results.

9. There was no evidence of toxicity in any patient.

10. Our experience indicates that a shortened schedule for the penicillin therapy of gonorrhea in outpatients is effective.

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The Chicago Intensive Treatment Center Adopts a Mechanized System of Patient Follow-up

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The Chicago Intensive Treatment Center is among those to whom has been assigned the duty of carrying forward research in the rapid treatment of patients infected with the venereal diseases. Besides treating the patients, theirs is the further task of evaluating the ultimate results of vario schedules of therapy. In consequence, t holding of patients under prolonged ou patient observation after discharge fro the hospital is an essential part of t activities of the center. Continuous o servation of treated cases makes possib (1) discovery of relapsing cases, (2) check on the effect and effectiveness of t specific treatment given, and (3) the con pilation of comparative data on the vario methods of intensive treatment.

At the present time, follow-up at th center involves the records of over 3,0 patients, and those of about 100 more a being added each month. This involves considerable amount of clerical work, a a mechanized system has been developed facilitate the task.

A small hand-operated addressin machine was installed, and all pertine

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With the collaboration of Claire E. Censky, Supervisor of Follow-up, Chicago Intensive Treatment Center, and Margaret M. Fenigson, Assistant Statistician, Venereal Disease Control Program.

This article has been much abbreviated. Full details may be obtained by correspondence with the authors or the editors of The Journal of Venereal Disease Information.

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data concerning the patient are set up on an address stencil at the time of discharge. These stencils serve the dual purpose of an appointment file and a delinquent file.

To all patients who do not establish a good clinic attendance record, form letters addressed from the stencils on the addressing machine are mailed 3 days before the next appointment date. If a patient fails to report within 3 days after his appointment date, another letter is sent. These letters carry a post office box number as a return address in order to protect the patient from unpleasant publicity. After a lapse of 4 more days, the case is turned over to the investigation staff. It has been found that this system effectively prevents many patients from becoming delinquent, and thus the activity of the investigation staff can be concentrated on a smaller number. The stencils for patients who report and those who fail to report are refiled in separate categories.

When the letter is not successful in persuading the patient to return, two lapse cards are run off bearing the name and address and other information in code. This coded information provides another appreciable saving in the time of the investigating staff. In the vast majority of instances, the investigator can begin work without referring to charts, activity cards, or other files for useful information regarding each individual delinquent patient. From the code he knows the disease, type of therapy, date of treatment, and the telephone number.

In closing a case that has turned out successfully, the investigator records on the lapse card the new appointment date, the reason for delinquency, and a summary of his own activity in locating the patient. The completed cards are forwarded to the regional tabulating unit for processing. The cards for all patients who cannot be located or who have not returned to treatment within 60 days are also forwarded to the unit. The tabulating unit furnishes a monthly accounting of activity on those patients located and those not located. A monthly count of the stencils in each division of the files shows exactly how the follow-up is progressing. Since there is an average of 18 stencils per inch, the total number may be easily and quickly estimated by measuring the filled drawers.

Twice a year an intensive drive is made to bring in the delinquent group that has failed to respond to any persuasion to return for observation. First, a telegram is sent to each patient. This usually proves effective in a number of cases. In the remainder, the resources of the follow-up staffs of the center and of the Chicago Health Department are pooled in an effort to effect the return of the delinquents.

As an indication of the effectiveness of this follow-up system, we offer as an example the following information regarding 150 patients treated in the center during January 1944. After 6 months, 120 (80 percent) were still active; 7 (5 percent) had moved out of jurisdiction; 1 (less than 1 percent) was temporarily incapacitated; 10 (7 percent) were considered lost. Only 12 (8 percent) were delinquent. At the end of a 12-month period 69 percent were still active; 6 percent had moved out of jurisdiction; 1 patient was still incapacitated; 7 percent could not be located; 18 percent were delinquent. More than two-thirds of the patients treated were kept under observation for as long as a year.

CURRENT LITERATURE

Note: Abstracts of any article listed below are available on request. In addition, abstracts of all articles concerned with venereal diseases or related subjects which have been published in the better known journals both here and abroad during the past 20 years are in the files. These are open to workers in the field. An asterisk (*) before a title indicates that the article is abstracted below.

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- *Rapid treatment of early syphilis with small doses of penicillin: Observations in one hundred and fifty-nine cases. George T. Binkley and Roy L. Kile. 51: 200–202, Mar. 1945.
- Experimental prophylaxis of chancroid. Frank C. Combes and Orlando Canizares. 51: 237–240, Apr. 1945.

Rapid treatment of early syphilis with small doses of penicillin.—The authors report the results of the treatment of 159 patients with small doses of penicillin for early syphilis according to an assignment by the Penicillin Panel of the Subcommittee on Venereal Diseases, National Research Council.

Three schedules of treatment were used: (1) A total dosage of 60,000 units of penicillin given intravenously in a solution of sodium chloride in injections of 1,000 units each at 3-hour intervals for 7½ days; (2) penicillin as in schedule 1 plus a total of 320 mg. mapharsen in doses of 40 mg. daily for 8 days; (3) a total of 300,000 units of penicillin in injections of 5,000 units each at intervals of 3 hours.

Before participating in the studies of the panel, the authors had treated 10 patients with 1,200,000 units of penicillin for early darkfield positive syphilis. Seven of this group have been observed for a period of 1 year and are clinically and serologically well.

Of 31 patients treated according to schedule 1, 81 percent showed relapse within 10 months; of 47 treated according to schedule 2, 60 percent showed relapse within 9 months; of 81 on schedule 3, 45 percent had relapses within 6 months. Further data concerning the patients in the series are tabulated.

Nine cases of asymptomatic and 3 of symptomatic neurosyphilis were included in the study, and 8 cases of pregnancy. Three nonsyphilitic infants were delivered from mothers who received only 60,000 units of penicillin, and 1 syphilitic infant was delivered from each of 2 mothers treated by each of the other schedules.

Since lesions healed rapidly and positive dark fields became negative under the small treatment given in this series, the authors emphasize the need for careful scrutiny for hidden early syphilis in all persons treated for gonorrhea with penicillin.

In contrast to the findings of certain studies that resistant strains of spirochetes are produced by insufficient treatment, the relapses in this series responded to re-eatment with 1,200,000 units as readily s did untreated syphilis.

The authors conclude that the optimal ose of penicillin for early syphilis is still nknown but that a dose of 1,200,000 units ives more satisfactory results than either f the other 3 schedules tried.

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ALIFORNIA & WEST. MED., SAN FRANCISCO

*Prenatal blood tests and congenital syphilis. George M. Uhl and R. L. Kaufman. 62: 168–170, Apr. 1945.

Prenatal blood tests and congenital philis.—For the purpose of evaluating the California prenatal blood test law, a study was made of 30 of the cases of congenital syphilis reported in Los Angeles since the passage of that measure in 1939. Other cases were reported, but complete information on them was not obtainable.

The records of the State Health Department show a marked decrease from 1940 to 1943 in reported congenital syphilis in the age group of less than 4 years, in spite of the wartime increase of 54.8 percent in the number of births during that period. This indicates that a higher percentage of women is receiving syphilitic treatment since the passage of the prenatal blood test law.

Fifty percent of the syphilitic mothers questioned had consulted a physician before the fourth month of pregnancy, at a time when prompt and adequate treatment presumably could have resulted in the birth of a nonsyphilitic child.

In 10 of the 30 cases, no prenatal test was made.

One case had a negative blood test early in pregnancy (third month) and a primary vulval darkfield positive lesion the eighth month.

Two mothers gave birth to 2 consecutive congenital syphilitic children.

Five of the mothers continued to receive adequate antisyphilitic therapy following delivery. Subsequently, each one became pregnant, and each was delivered of a healthy infant.

Some of the mothers were uncooperative in receiving adequate therapy during pregnancy.

One-third of the mothers had previously given birth to nonsyphilitic children.

Three of the 30 mothers had been previously diagnosed as syphilitic and had had previous treatment, which, however, was inadequate.

The authors conclude that a more active treatment program for pregnant women is needed.

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*Administration of penicillin by rectal suppository: Preliminary note. Leo Loewe, Erna Alture-Werber and Philip Rosenblatt. 128: 18, May 5, 1945.
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May 5, 1945.

**Penicillin in the treatment of infantil
congenital syphilis.**—The authors give
preliminary report of the results of penicil
lin therapy in the treatment of 69 infant
for manifest early congenital syphilis.

The only antisyphilitic treatment give
consisted of 60 intramuscular injectior
each of 16,000 to 32,000 units of penicilli
per kilogram of body weight. The dru
was given in saline solution at 3-hour ir
tervals over a period of 7½ days. Th
schedule corresponds to a total dose
1,000,000 to 2,000,000 units for an adult.

Reactions, mostly mild, occurred durin
treatment in 34 cases. One infant d
veloped severe, nearly fatal collapse
hours after the beginning of treatment;
infants died during or soon after trea
ment, at periods of 24 hours, 7 days, ar
9 days, respectively, after penicillin w
started. Two others died later (5 and
weeks after treatment); all of these ha
active syphilitic lesions, were under
months of age, and were in poor gener
condition. Whether these deaths were d
to penicillin or to syphilis is not known.

In general, the immediate response to t
treatment was gratifying. If spinal flu
findings were abnormal initially, they r
versed to normal within a period of
days to 6 months. Of the 69 infants,
were followed from 4 to 12 months.
the end of 12 months, 25 were physical
normal and showed doubtful or negati
serologic tests (21 negative, 4 doubtful
In 9 of the 39, quantitative serologic tite
were either stationary at moderately hi
levels or were declining; these infa
were well. Serologic relapse occurred in
infants, and clinical relapse in 2; serolog
relapse occurred from 3 to 6 months af
treatment and clinical relapse in 6 mont
in both instances.

Results indicate that the present sche
ules are not entirely satisfactory, with
spect either to the total dose or to the tin
dose relationship. The authors suggest
increase in the total amount of penicil
given with the same time-dose relationsh
They recommend temporarily a total d

f 40,000 units per kilogram of body eight. They also recommend that defi- ite relapse, serologic or clinical, should be treated at double the original dose, and ney define a relapse as either a persist- ntly rising serologic titer or clinical evi- ence of progression of the disease. Per- stent positivity of the blood serologic test lone they do not consider an indication or retreatment.

A detailed report of these and additional ases will be made at a later date.

Blood and spinal fluid tests for syphi- s in malarial patients.—The effects of aturally acquired malaria on the serologic ests for syphilis in the blood and spinal uid are studied in this paper.

Samples of blood and spinal fluid were aken from 100 malarial patients within 8 hours after admission to the hospital. None of these patients gave a history of yphilis. In all cases where positive or oubtful reactions occurred, repeat tests vere done at weekly intervals until nega- ive reactions were obtained. Quantitative ters could not be taken.

The spinal fluid Wassermann was nega- ve in all of the 100 cases. Some devia- ons from normal occurred in the fluid ndings of 4 cases, but in none of these vere there any symptoms of neurologic athologic changes. All of the colloidal old reactions were within normal limits.

The blood test was positive in 12 per- ent and doubtful in 10 percent with either r both of the tests used. The course of ne blood Kahn and Wassermann reactions rom positive to doubtful to negative dur- ng 45 days is shown.

The literature is reviewed. No studies re reported which correlate the duration f the infection or the locality in which ne infection originated with the result of erologic tests. In the present series, there as apparently a difference in this respect etween the cases originating in the Sol- mon Islands and those in New Guinea nd in the Mediterranean.

The authors conclude that at least 1 nonth should elapse after an acute at- ck of malaria before samples for sero- gic tests should be taken.

Administration of penicillin by rectal suppository.—Preliminary observations on the results following the administration of penicillin by rectal suppository are reported in this paper.

Varying amounts of the sodium salt of penicillin were incorporated by hand in a simple cocoa butter base. Suppositories were inserted rectally without previous preparation in hospitalized recumbent patients selected at random and in ambulatory volunteers. The 14 subjects were instructed to retain the suppository, which caused little, if any, discomfort. Blood samples were withdrawn hourly for 12 hours and at the end of 24 hours for penicillin assays. The results are tabulated.

Correlation between dosage and penicillin levels was not entirely consistent in this limited experience with crude material. Maximum levels up to 0.768 Oxford unit per cubic centimeter of serum were obtained with a dose of 1,000,000 units. Prolonged minimum levels of 0.012 Oxford unit per cubic centimeter were observed with all dosages employed. The most sustained effects were noted in recumbent patients. Clinical trials of the method in patients with gonorrhea are projected.

The authors conclude that prolonged penicillin blood levels sufficiently high to be effective against the gonococcus were obtained by the method described.

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The stability of penicillin sodium held at various temperatures. William A. Randall, Henry Welch and Albert G. Hunter. 34: 110–113. Apr. 1945.

Is the indiscriminate use of penicillin imminent? Leslie A. Falk. 34: 126-127, Apr. 1945.

Penicillin—A review.—Van Winkle and Herwick give a detailed review of the literature of penicillin, including a discussion of the following topics: (1) history; (2) methods of assay for the determination of the potency of samples of commercial penicillin, (3) production, (4) pharmacology, (5) chemistry, (6) bacteriology, (7) clinical use, (8) clinical toxicity, (9) other penicillins and pharmaceutical preparations, (10) other antibiotics.

The discussion of the chemistry of penicillin and of the methods whereby it is now being produced on a commercial scale is limited because of wartime restrictions. Under clinical use, mention is made of the injection of penicillin in suspensions of peanut oil and beeswax, of certain devices for prolonging its absorption, and of the oral administration of the drug.

Three chemically different penicillins, all of which have been isolated in crystalline form, are described: penicillins G, X, and F. Penicillin G is the article of commerce; it contains as high as 20 to 25 percent of penicillin X, also misnamed "allopenicillin." Penicillin F has been produced to some extent in Great Britain, but it is not sold in this country. It is alleged to be much less stable than either penicillin G or X. All three are potent antibiotics. They show slight differences in their activity against certain organisms. Penicillin X is more effective than penicillin G in the treatment of gonorrhea.

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Studies on lymphogranuloma venereum. III. The action of the sulfonamides on the agent of lymphogranuloma venereum. Helen Jones, Geoffrey Rake and Barbara Stearns. 76: 55–69, Jan.–Feb. 1945.

A study of seven different salts of penicillin.—The authors report the results of a study of the properties of 7 commercial salts of penicillin.

The methods used are described.

The authors' summary and conclusion follow:

The relative toxicity of 7 commercia salts of penicillin, determined by intravenous injection of mice, was found to be (i order of their increasing toxicity): sodiun lithium, ammonium, strontium, calciun magnesium, and potassium. This relativ toxicity of the various salts holds not onl for the milli-equivalents of the cations use in their preparation and the weight c penicillin at the LD_{50}, but also for th number of units at the LD_{50}. A metho for determining the efficacy in vivo c salts of penicillin is given and the effectiveness of 7 salts of penicillin determine against Pneumococcus type I infection c mice. All 7 salts of penicillin studied ar equally effective in the treatment of pneumococcic infection of mice.

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Simple technic for estimation of penicillin i blood and other body fluids. Mary B. Wol han, Windsor C. Cutting and Mary V Cutting. 30: 161–162, Feb. 1945.

Comparative results obtained with th Kahn standard and a one-tube flocculation procedure in serologic tests fo syphilis.—The sensitivity and specificit of a single-tube diagnostic flocculation pr cedure in serologic tests for syphilis compared with that of the Kahn standar three-tube technic was the subject of th study reported in this paper.

Both procedures were used in testir more than 2,000 specimens, includir serums from nonsyphilitic patients as we as those in the various stages of the di ease. Data were tabulated on tests give over a period of 4 years.

The authors conclude that a one-tube est for syphilis, using patient's serum and Kahn standard antigen in a 10 : 1 ratio, is ssentially as sensitive and as specific as he three-tube Kahn standard technic, has he advantage of giving fewer doubtful eactions, and is simpler and easier to perorm.

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The enhancement of the physiological conomy of penicillin in dogs by the imultaneous administration of paraminohippuric acid II.—The present inestigation was undertaken for the purpose f finding a method of increasing the conomy with which the body handles enicillin. Experiments were done on ogs to test the hypothesis that the secreor. of penicillin could be suppressed by ie simultaneous administration of p-amiohippuric acid (PAH). The materials nd methods used are described.

The experiments performed demonrated the following points:

1. There was invariably a slower rate of ll in the penicillin plasma level after the ingle 10,000–unit intravenous injections hen PAH was infused during the course f the experiment.

2. The time at which the penicillin level the plasma fell below determinable conentrations was prolonged from 2 to 2½ ours for the controls (except in one instance) to 3½ to 4 hours in the PAH experiments.

3. There was a prolongation of the duration of time wherein penicillin was recoverable in the urine from 6½ to 8 hours for the controls to from 9½ to over 12½ hours for the PAH experiments.

4. Since the rate of fall of the penicillin plasma level was decreased, and its time of disappearance from plasma and urine was increased, it was consistent that we should find the amount of penicillin recovered in the urine, especially during the early hours of the experiments, to be strikingly less in the PAH tests as compared to the controls.

5. The data presented for the renal clearance of penicillin in the two types of experiments clearly showed that PAH suppressed the clearance of penicillin and that this suppression was more or less proportional to the decreased PAH clearance as the plasma concentration of the latter compound was increased.

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plasma by the broth dilution method of titration. The effect of adrenalin in these experiments was to flatten the blood activity curves so that as compared with control tests, lesser concentrations of penicillin were found in samples taken soon after the injection and higher concentrations in those taken 1½ to 3 hours later.

Intramuscular injections of solutions of 50,000 units of sodium penicillin dissolved in 4 cc. of 1-50,000 adrenalin were given to 7 human patients, and injections of 20,000 units contained in 2 cc. of 1-25,000 adrenalin were given to 2 patients. Six control subjects were injected by the same method with saline solutions of penicillin, and blood level titrations were run.

Although the most efficient adrenalin and penicillin mixture has not yet been worked out, it appears that this modification (1 : 50,000—1 : 25,000 adrenalin) may find immediate application to the usual method of intramuscular injection.

Maintenance of the blood level of penicillin after intramuscular injection.—The authors report the results of a study of colloid gelatin and privine or neosynephrin as a means of delaying the absorption of penicillin from the blood stream. The materials and methods used are described. Twenty-four experiments were completed, and the results of 12 of these are tabulated. The penicillin solution was injected intramuscularly both in dogs and in human patients, either privine or neosynephrin being used as the vasoconstrictor in dogs, but only neosynephrin in patients.

Blood concentrations of penicillin were maintained at measurable levels for as long as 7 or 8 hours following single intramuscular injections of penicillin in the dog and in patients by means of vehicles containing 6 percent to 20 percent ossein gelatin and a long-acting vasoconstrictor drug.

These results indicate that only 3 intramuscular injections would be required to maintain a therapeutic level of penicillin in the blood for a 24-hour period.

The estimation of penicillin in body fluids.—This paper reports the results of a study made for the purpose of finding a method of estimating penicillin levels of a lower order than that readily measured by the agar cup plate method.

A large number of various species of bacteria were studied in an effort to determine whether an organism existed which was highly sensitive to penicillin, yet could be grown and maintained on common laboratory media and which would give sharp and reproducible end points. The organism selected was a strain of Bacillus subtilis which grows luxuriantly at 30° C. with a diffuse turbidity, while at 37°, growth consists of a pellicle above a clear medium. Its resistance to penicillin is of the same order as most strains of hemolytic streptococci requiring as little as 0.0085 units per milliliter to inhibit a 1 : 100 dilution of a broth culture. Cultures maintained at room temperature in screw-capped bottles were tested over an interval of 6 months with no demonstrable loss of sensitivity.

The technic used is described.

The test can be used to determine potencies as low as 0.03 per milliliter, and the end point is very sharp.

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☆ U. S. GOVERNMENT PRINTING OFFICE: 1945—649215

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The JOURNAL of VENEREAL DISEASE INFORMATION

(*Formerly* VENEREAL DISEASE INFORMATION)

Volume 26 August 1945 Number 8

EDITORIAL 167

ORIGINAL ARTICLES

State and Territorial Health Officers Consider the Problem of Disease Control 168
J. R. Heller, Jr., *Medical Director*

The Economic Cost of Paresis in the United States 175
Albert P. Iskrant, *Sanitarian* (R)

CURRENT LITERATURE 184

Federal Security Agency
UNITED STATES PUBLIC HEALTH SERVICE

2.4
26/8

FEDERAL SECURITY AGENCY

UNITED STATES PUBLIC HEALTH SERVICE

THOMAS PARRAN, *Surgeon General*

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Approved by the Director, Bureau of the Budget, as required
by Rule 42, of the Joint Committee

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UNITED STATES GOVERNMENT PRINTING OFFICE, WASHINGTON: 1945

For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D.
Price 10 cents. Subscription price, 75 cents a year

The Changing Needs in Venereal Disease Control

he State and Territorial health officers met in Washington in April of year. In all phases of public health, of course, the meeting had to con- er many problems which were of deep significance because of the long rs of war. In the field of venereal disease, however, there was an added ortance because of the radical changes in therapy that have taken place the recent past and are still continuing.

n the past the treatment of venereal diseases, except in complicated cases l among well-to-do patients, has all too often been left entirely to the lic health clinic. Recently public health authorities have come to realize t only through active participation of the private physician as well, can trol of the venereal diseases become possible. The new therapies that e been developed, plus new services offered to the physician by State lth departments, are making it more and more possible for the physician assume the role that should be his. Much of the gonorrhea treatment can given with ease in the office, and furthermore the physician's services in gnosing and recommending for inpatient care such patients as require it ll be recognized and rewarded.

One barrier to effective control of syphilis has been the difficulty in lding patients to a sufficient amount of treatment, not only to insure their n future health but to protect the health of their possible contacts. Now, wever, we can be assured that at least 90 percent of the patients admitted inpatient care for syphilis will finish the prescribed course.

Furthermore, there is even the hope that those persons infected too long o to have benefited by recent methods of treatment may be protected from least the late manifestations of syphilis of the central nervous system. krant estimates that 11.3 million dollars and 99 thousand person-years of rking life were lost during 1940 because of the occurrence of paresis. Since me of the schemes of inpatient care for syphilis are among those that are ost effective in the alleviation of this type of syphilis, it is hoped that much this great cost may be prevented by the treatment of patients in the ymptomatic stage of neurosyphilis.

The State and Territorial Health Officers' Committee on Venereal Diseases ve careful consideration to the new weapons provided by methods of rapid eatment in the control of venereal diseases. Specific recommendations were ade on many of the vital questions discussed, and in cooperation with each her the United States Public Health Service and the several States are tting those recommendations into practice. It is hoped that the results these efforts will soon become apparent.

—The Editors

State and Territorial Health Officers Consider t Problem of Venereal Disease Control

J. R. Heller, Jr.,[1]

Medical Director, United States Public Health Service

In anticipation of the State and Territorial Health Officers' meeting held in April of this year, the Venereal Disease Division of the United States Public Health Service prepared a set of charts depicting certain aspects of the venereal disease problem and the way in which it has been met during the war period. These, together with a request for replies to several questions concerning their needs and plans for the coming year, were sent to each State health officer. These questions were designed to obtain information which would enable the Public Health Service to present to the Bureau of the Budget and to Congress an accurate estimate of State needs for Federal funds, and a justification for such expenditure. The States gave prompt and careful consideration to the analytical charts and to the questions, and most of the replies were received in time to used as a basis for the final estimates ma This paper presents a discussion of charts and questions raised, the replies ceived from the States, and the conclusi reached.

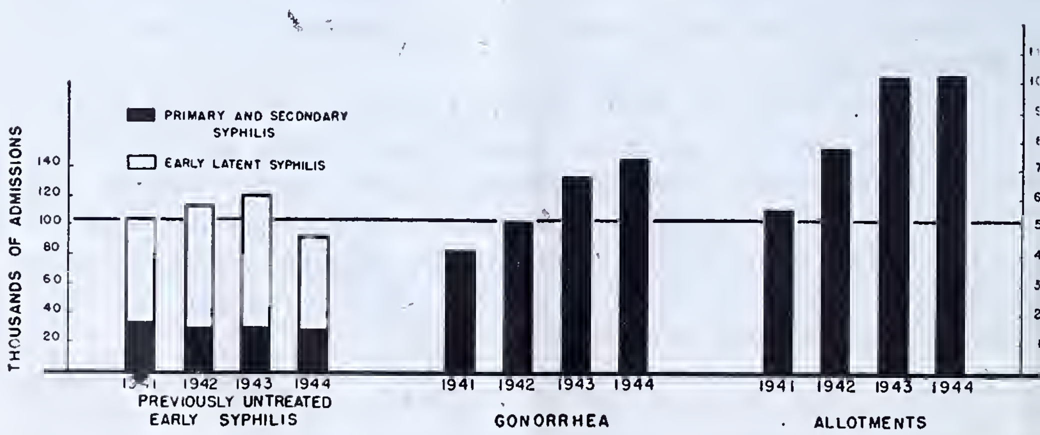
The first chart showed that during past 4 years, although Congress has nea doubled the amount of Federal funds av able for venereal disease control, this not brought a material increase in number of cases of early syphilis admit to clinics. Nor has the ratio of early ca to the total admissions changed during t period. The number of cases of gonorrl admitted, however, has increased sign cantly.

The second chart indicated that the fa ure to increase syphilis admissions was due to any greater tendency of patients seek private care, since there has been lit change in the number of cases reported private physicians. And the third ch showed that, while admissions for gon rhea have increased, the number of cli

CHART I

CASES OF VENEREAL DISEASE REPORTED BY CLINICS AND FEDERAL FUNDS ALLOTTED TO THE STATES FOR THE CONTROL OF VENEREAL DISEASE

FISCAL YEARS 1941 - 1944



Based on a paper delivered before the State and Territorial Health Officers, Apr. 9-13, 1945, Washington, D. C.

[1] Chief, Venereal Disease Division, U. S. Public Health Service, Washington, D. C.

CHART II

ADMISSIONS FOR SYPHILIS TO PRIVATE PHYSICIANS

FISCAL YEARS 1941-1944

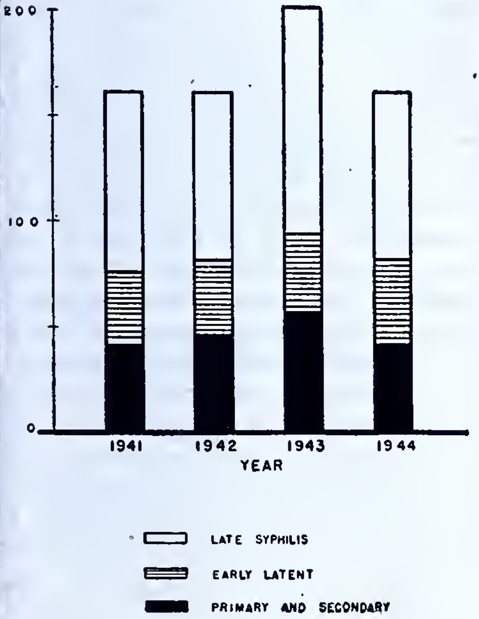
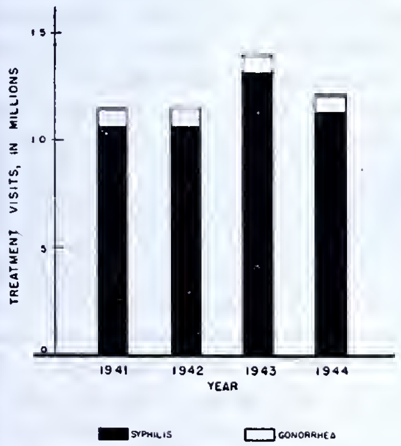


CHART III

TREATMENT VISITS FOR SYPHILIS AND GONORRHEA

FISCAL YEARS 1941-1944



GONORRHEA CONSTITUTES APPROXIMATELY ONLY 6% OF ALL VISITS DE FOR VENEREAL DISEASE

sits by gonorrhea patients did not rise orrespondingly, probably because of recent anges in therapy. Only about 5 percent all visits made each year are by persons eking treatment for gonorrhea, a proportion which has not changed appreciably during the past 4 years. The increase in the admissions for gonorrhea, then, can account for but little of the added expenditure.

It is well known that success in the control of any infectious disease depends on finding a large proportion of cases and rendering them noninfectious before they have had a chance to spread their disease to other individuals. Yet it seems clear from these charts that the increase in funds appropriated during this period has not increased case-finding efficiency in a like degree. Therefore, the health officers were asked to indicate whether they planned to increase the funds budgeted to case-finding agencies, and also to suggest other plans which might improve case finding. There was found to be general agreement on several points.

Greater utilization of and cooperation on the part of the private physician was generally conceded to be a great and widespread need. One plan in particular was mentioned several times: When a blood specimen submitted to the State laboratory by a private practitioner proves to be positive, the report of the result should be followed by a letter to the doctor calling to his attention the services offered by the health department. Another was the proposal that penicillin be made available without cost to those physicians who will allow their patients to be interviewed for contact information by a trained epidemiologic investigator.

At the meeting positive action was taken on these suggestions. It was recommended by the Venereal Disease Committee and approved by the State and Territorial health officers that efforts be intensified to obtain increased cooperation of physicians in private practice in the reporting of venereal disease cases and in obtaining contact information. Where suitable public health diagnostic facilities are not available, it was urged consideration be given to paying private physicians for making diagnoses and referring cases of infectious venereal disease, that would probably be responsive to intensive therapy, to rapid treatment centers. It was further recommended that penicillin be furnished to physicians, but only for the treatment of gonorrhea, and that it be provided on the same basis as other drugs used for the same purpose.

The need for expanded and more inclusive educational programs was mentioned in a number of replies. There is no doubt that better general education and the institution of training and educational programs specifically designed for groups working in the field can become a powerful case finding weapon. Because of these proposals, the Public Health Service is expanding its participation in educational and training activities, and is making available educational facilities and consultative services which the States individually may consider necessary. The committee recommended that even further educational technics be employed, including personal interviews and correspondence, particularly to inform physicians of their importance in the venereal disease control program.

The replies also generally agreed that personnel in regular clinics could be better utilized if emphasis were shifted from treatment to diagnostic and case-finding activities. Many expressed a need for trained personnel, particularly for lay follow-up workers, male investigators, and public health nurses trained for full time venereal disease work. It was repeatedly stated that unfilled vacancies existed, and that where training facilities have been established, suitable candidates could not be found. Recently the health officers have been informed that a number of men in the Armed Forces trained in the venereal disease field, such as pharmacist mates in the Navy and noncommissioned venereal disease control officers in the Army, are now being separated from the Armed Forces, and that, when requested by a State, the Public Health Service can in many instances help find the trained workers required.

It must be remembered, however, that it will be possible to recruit and to retain good workers only if suitable staff recognition and adequate salaries are provided. In those States in which lay investigators have been most successful, it has been necessary to employ personnel on a high educational level and at salaries comparable to other positions of equal responsibility i the State. In this regard, it has been suggested that the Public Health Servic sponsor a formal training course for venereal disease investigators or case finder those eligible being individuals who hav 2 or more years of college and 1 year o employment experience. Provision will b made to confer college credit for thi course when the individual meets the requirements of the institution. Efforts wil be made through existing liaison facilitie of the Army, the Navy, and the Publi Health Service to direct men being release who are interested in this type of worl into the special training courses bein planned. This proposal was approved b the committee, who recommended that th U. S. Public Health Service sponsor 3- to 9-month formal training course fo venereal disease investigators, both me and women, in one or more colleges, an expressed the belief that such trained personnel would be given consideration fo subsequent employment on State pay roll as venereal disease investigators if the met State merit system requirements.

For some time it has been apparent tha a disproportionate amount of the fund appropriated for the control of venerea diseases was being expended by many outpatient clinics in the prolonged treatmen of latent syphilis. It was recommende by the committee and approved that in suc cases treatment be terminated when 3 arsenical and 40 bismuth injections hav been administered. Furthermore, with th widespread development of rapid treatmen facilities it seems likely that a large proportion of the infectious syphilis and of th potentially complicated syphilis will be given inpatient care. Of course there will alway be some proportion of patients for whom rapid treatment is contraindicated or impracticable for various reasons, but th bulk of time now spent on treatment by older methods will certainly be released. Therefore, it would seem possible to divert much of the time in the clinics to case-finding, interviewing and diagnostic procedures in the near future, and this recommendation was made by the committee. It was further recommended that the monthly inic report be amended to include data garding diagnostic and referral activity.

Taking these things into consideration it ould appear that a reappraisal of the lace of the routine treatment center and linic in the over-all venereal disease proram is needed, and it becomes apparent hat in order to make the most advantageus use of the available resources an estinate of the operational costs of routine enereal disease clinics must be made. Preliminary cost analysis forms were sent o the health officers and discussion was nvited. The replies were extremely helpul and complete and have greatly aided n the planning of such a cost analysis. The committee voted approval of a plan whereby the U. S. Public Health Service would obtain, through simplified cost analysis forms, data necessary for a uniform analysis of current clinic operation, so that new clinic functions can be adjusted effectively. The Public Health Service provided necessary forms and instructions and State health officers are being assisted in obtaining the data by Public Health Service District Office personnel.

The next three charts related to the rapid treatment center program, and present perhaps the most encouraging phase of the whole venereal disease control picture. Chart IV shows more graphically than any words could tell the one big advantage inpatient care for syphilis, particularly infectious syphilis, presents over all previously existing schedules of therapy. Under ordinary outpatient care only 30 percent of all patients treated completed the prescribed course of treatment, as compared with 92 percent of those admitted to inpatient care. Furthermore it can be seen from chart V that this advantage is being offered to more and more patients each month. In December 1944, 2,994 cases of early syphilis were admitted to rapid treatment centers.

One of the main difficulties in the program heretofore has been the inequality of costs from center to center. It can be seen from chart VI that the center costs vary

CHART IV

PERCENTAGE OF CASES COMPLETING TREATMENT FOR SYPHILIS

JULY - DECEMBER 1944

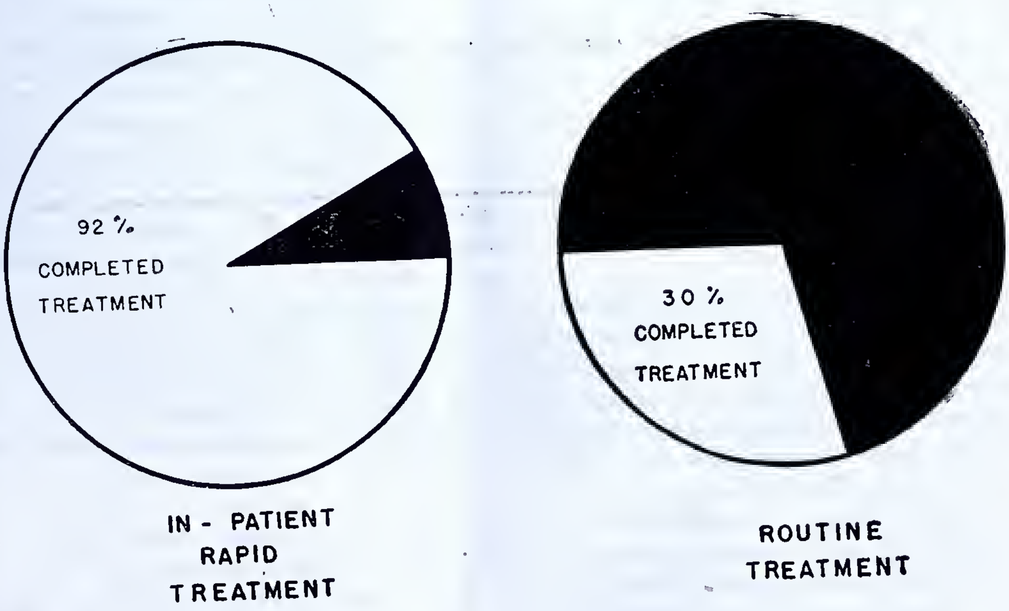
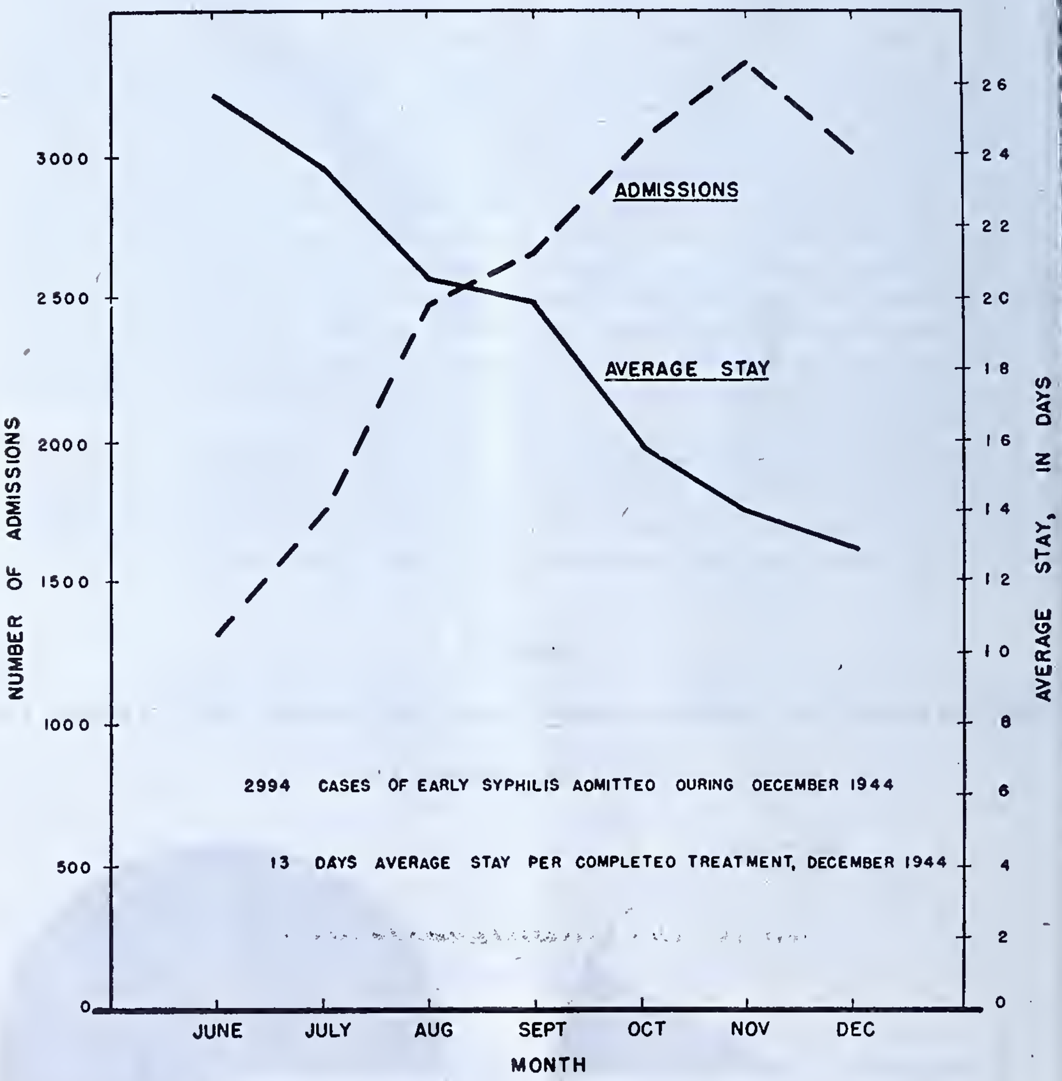


CHART V

ADMISSIONS FOR EARLY SYPHILIS TO RAPID TREATMENT CENTERS AND AVERAGE STAY IN DAYS PER COMPLETED COURSE OF TREATMENT

JUNE - DECEMBER 1944

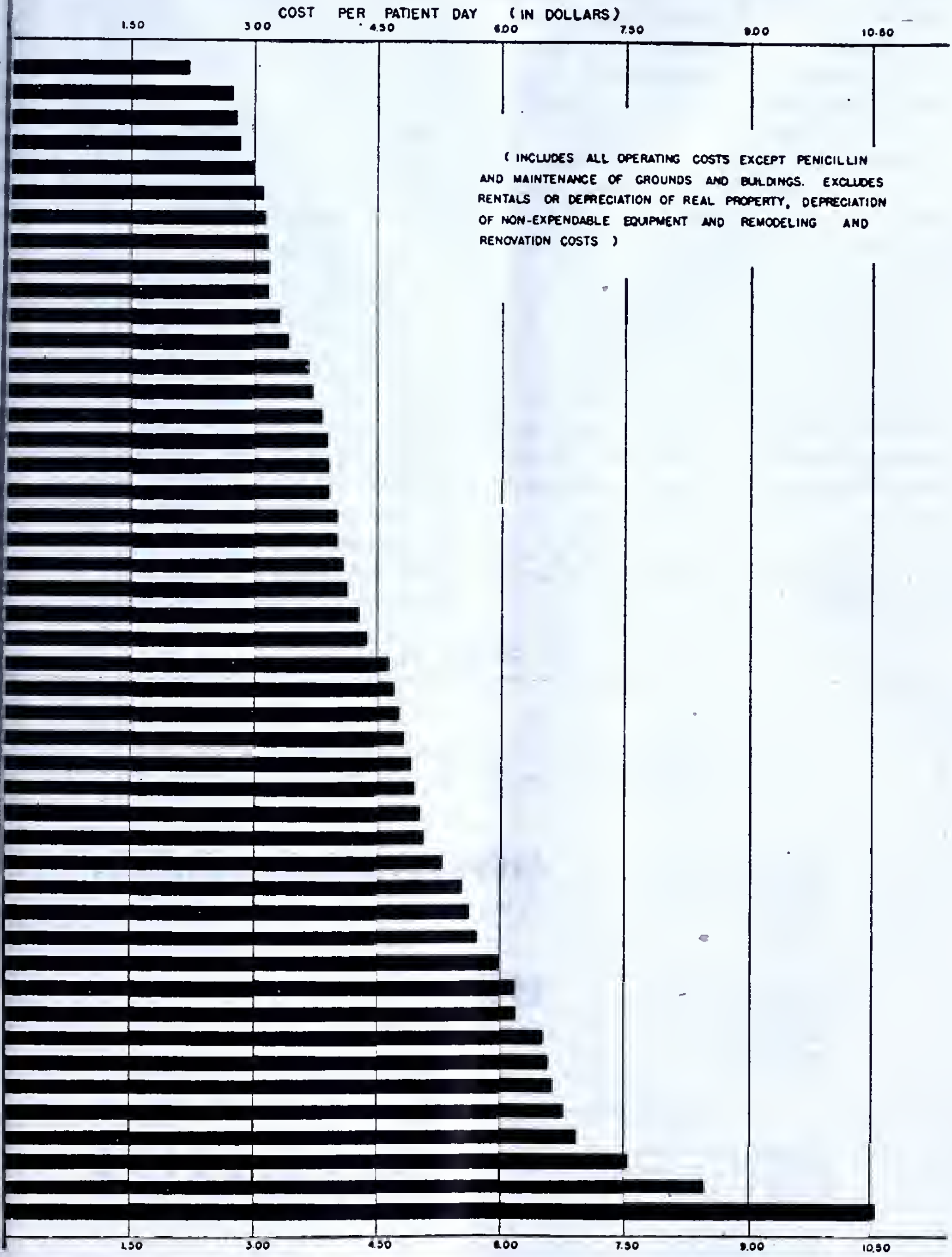


from approximately $2.00 per patient day to $10.50 per patient day. However, looking back at chart V it becomes apparent that the program will probably operate with increased efficiency as experience is gained. The average stay per patient was reduced in 6 months from 26 days to 13 days. However, because of the variations in costs and because of the number of centers, even those not engaged in research, which exceed the national hospital rate of $5.00 per day, it was proposed that in addition to continuance of the rapid treatment center program, funds be requested for the rental of beds in already existing hospitals wherever the provision of a rapid treatment center would prove too expensive or would be impracticable on other counts. Since the consensus of the health officer group was definitely in the affirmative it was requested that 6 million dollars be appropriated for the inpatient care of patients

CHART VI

RAPID TREATMENT CENTER COSTS PER PATIENT DAY

OCTOBER AND NOVEMBER 1944

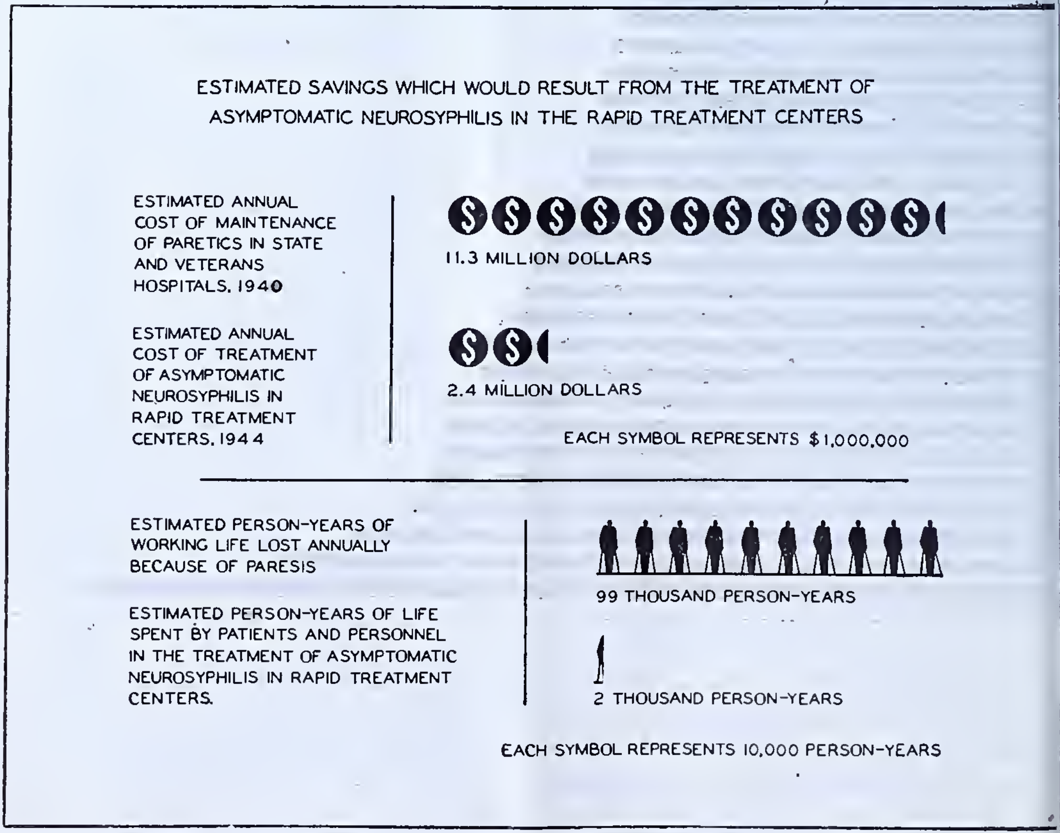


with venereal disease, to be used either for the maintenance and operation of rapid treatment centers or for rental of beds in already existing institutions: The decision as to which type of facility will be approved in a given locality will be made on the basis of State requests and the needs of the area to be served.

At the time this request was made, inpatient care was being extended to patients with gonorrhea as well as patients with syphilis. However, recent advances in penicillin therapy for gonorrhea have now made the treatment of this disease an outpatient routine. Therefore the Bureau of the Budget has recommended to Congress an appropriation of approximately 4½ million dollars rather than the 6 million originally requested.

Chart VII, based on the calculations of Iskrant[2] showed the potential national manpower and the dollars that could in part be saved in any one year were it possible to treat in the asymptomatic stage those persons who would subsequently be admitted with paresis to mental institutions. Some of the schemes of treatment most effective in the prevention of this type of syphilis can be administered only under hospital conditions. Therefore, in order that these schedules of therapy might be extended to such patients the States we
asked: “When it is determined that t
infected person is considered potential
responsive to intensive therapy, should
be given inpatient care regardless of t
stage of syphilis?” In several of the repli
the question of whether or not it lies with
the province of public health institutions
treat cases that are not communicable w
discussed, but the majority felt that th
course of action could be said to lie in t
field of preventive medicine, and actuall
among all those who replied, only 3 Stat
did not wish to provide inpatient care f
this type of case. As it now stands, i
patient care may be extended wheneve
requested by the States to all syphilis p
tients who are considered potentially r
sponsive to intensive therapy, provided th
does not necessitate any curtailment
activity directed toward reducing th
amount of infectious disease through th
finding and treating of early cases, whic
after all constitutes the most importan
phase of venereal disease control.

CHART VII



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[2] Iskrant, A. P.: The economic cost of paresis in the United States. J. Ven. Dis. Inform., 26: 175–183, 1945.

The discussions and decisions briefly outied above are all of vital significance in recting the future course of venereal disise control in this country. The Public ealth Service is in full accord with the onclusions reached, and is endeavoring to llow the directives laid down by the State and Territorial health officers. New problems will arise, and some solutions of old problems will be found unsatisfactory in the coming months, but it is hoped that these difficulties will be met wisely and that progress can be reported at the next meeting.

The Economic Cost of Paresis in the United States

Albert P. Iskrant,
Sanitarian (R), United States Public Health Service

Recent years have witnessed a remarkble expansion of health services furnished ree or at low cost to segments of our opulation. This expansion creates such mportant problems, mainly economic, as leciding what groups to tax for the provision of these services, estimating the cost, organizing the services for maximum social benefit, and calculating the benefits n relation to cost.

Particularly significant has been a greatly increased provision for medical care, not only to paupers but to other persons who are unable to pay for adequate medical care during sickness although they are self-supporting when well. Tax-supported medical care has been extended to this group because of public concern with individual welfare and the threat of disease. It is estimated that in 1929, $500,000,000 from public funds was thus expended for medical care (*1*). In New York State alone, the cost of public medical services has been estimated at approximately $6.50 per capita per annum (*1*). At the National Health Conference held in July 1938, it was stated by the Technical Committee on Medical Care that "the total annual cost to Federal, State and local governments of a reasonably adequate program for the expansion of public health services, maternal and child health services, hospital and clinical services, and for medical care for the lowest income groups would reach up to $850,000,000 a year" (*2*).

Since funds derived from taxation are used in increasing amounts for the provision of medical care, it is very desirable that statistics be gathered and estimates made of the cost of treating and controlling various diseases and of the economic return to the community. This article is an attempt to study the economic cost to the community of one late manifestation of syphilis, namely, paresis.

Both society and the individual suffer many losses because of paresis. Among these are the burden imposed on public relief or private charity by the necessity of caring for paretics as well as their families; the added burden imposed on taxpayers and society by the crimes committed by paretics and by juvenile delinquency among their neglected children; money losses caused by the wild financial speculation (sometimes with public funds) of some early paretics. The present discussion, however, is limited to the economic cost of paresis in the United States studied from two angles: (1) the direct money cost to the community of hospitalizing paretic patients in State-supported institutions, and (2) the loss or impairment of productive capacity due to paresis.

For the purposes of this calculation it is necessary to have information on (1) annual figures for the incidence of paresis, (2) the current paretic patient load in mental institutions, and (3) the occupation and income distribution of paretics. "Patients in Mental Institutions" for the years of 1939 and 1940 published by the Bureau of the Census was used as a source for figures on first admissions, readmissions, discharges, and deaths from paresis as well as data on the resident patient population and expenditures for maintenance (*3*). Data on the occupation and income distribution of paretics (prior to paretic involvement) were made available by the Committee on Evaluation of Fever in the Treatment of Paresis (*4*). To facilitate distinction between the published figures for new admissions and figures from the committee, the latter figures will be designated as those of the "studied group."

The loss of productive power in 1940 caused by paresis is calculated by cumulation to age 65 of the man-years lost by all people who developed paresis in that year. The true incidence of paresis in any one year is unknown. Some cases never come to the attention of the medical profession, and many of those who receive medical care outside an institution are not reported. The nearest approximation available is the number of first admissions for paresis to mental institutions in any one year; that is, the number of paretics who, for the first time, have reached the stage where they have to be institutionalized. These probably constitute an underestimation of the total new cases occurring at any given time; but the 1940 first admissions will be used as the incidence of paresis in 1940, since they are measurable and, furthermore, probably include most of the cases causing the greatest loss in productive power.

The median age and occupation of the studied group are applied to the first admissions for 1940 and a figure for total estimated years of working life (man-years) from the median age to 65 calculated. It is realized that not all people retire from active work at age 65, but it is probable that most persons do work up to that age. As this is the age at which old-age insurance benefits are payable, it is used throughout the calculations.

If all paretics who entered mental institutions remained there until death, the total estimated man-years from the median age to 65 would be lost. Up to the introduction of tryparsamide therapy and, more especially, of fever treatment in 1922, permanent hospitalization was the inevitable prognosis. Fortunately, it is now sometimes possible to return paretics to their former socioeconomic status even after they have entered mental institutions. Therefore, a calculation is made of th percentage loss of earning ability of paretics, and this is applied to the accumulated working man-years to obtain an estimate of the man-years lost because of paresis.

In table 1 are presented the figures on first admissions for paresis to mental institutions in the United States in 1940. As previously stated, this is taken as an estimate of the incidence of paresis in that year.

TABLE 1.—*First admissions for paresis—1940**

	Male	Female	Total
State hospitals..........	4,417	1,595	6,012
Veterans' Administration hospitals..............	638	......	638
County and city hospitals.	252	97	349
Private hospitals.........	135	62	197
Total**...........	5,442	1,754	7,196

*Patients in Mental Institutions, 1940, United States Bureau of the Census.

**Does not include 381 cases admitted to State psychopathic hospitals, nor the 1,907 first admissions to psychopathic wards of general hospitals.

No information is available as to the exact occupation of first admissions before the onset of paresis. Any figures available as to economic status give the status of the patient immediately before admission to the institution. This occurs at a time considerably after the onset of paresis, after the individual's earning capacity has been impaired, and after a possible change to an occupation on a lower income level.

It is not at all unlikely that much damage has been done to his earning ability before the discovery and diagnosis of paresis. With this in mind, an effort was made to determine the true occupations of a selected group of paretics; that is, the occupation prior to the onset of paresis and the resulting impairment of earning capacity rather than at the time of admission to the clinic or institution. These figures are not first admissions for 1940 or for any one year, but include all paretics who received fever treatment in the institutions included in the study from the time of the beginning of fever treatment to

7. No selection was made; all pa- ts were included.

ı table 2, the male first admissions in) are distributed in the same proportion the occupations of the studied group.[1] s believed that this occupational classi- tion is more accurate than any that ld be made from first admissions to te institutions. For this reason, the :ribution of occupations of the studied ıup was applied to the first admissions 1940, as it is not probable that the occupational distribution of paretics varies greatly from year to year.

BLE 2.—*Occupational distribution of male first admissions for paresis in 1940 in same ratio as studied group*

upational group	Studied group distribution	Estimated distribution of 1940 first admissions	Median age
fessional..	14.3	778	44
es........	15.7	854	42
rical......	4.9	267	40
vice......	9.5	517	42
lled......	29.2	1,589	41
niskilled..	12.0	653	41
skilled....	14.4	784	42
Total...	100.0	5,442	42

Having estimated the probable occupational distribution of paretic patients admitted to mental institutions in the United States in 1940, the next step is to calculate the median age for each occupational group. The median age of onset of paresis, according to the studied group, is 42 for male and 41 for female patients. The median age on admission to State institutions is 44 for male and 42 for female (*3*). Both sets of figures indicate that female individuals acquire paresis earlier than male. For the studied group, 12 percent of the female patients were under 30 as against 5 percent of the male; for institutions, 14 percent of the female were under 30 compared to 6 percent of the male. The median age for both sexes is around 40 which is important to note since that is the time when men in some occupations have reached their maximum earning capacity (*6*).

In table 3 the number of years lived by 1,000 men and the number of years these men would be employed from age 40 through age 65 is computed; in table 4 the years lived by 1,754 women from age

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[1] The occupations of the paretics in the studied oup have been broken into 7 main groups and : individual occupations coded and classified cording to "Occupational Titles and Codes for se in Public Employment Offices" (*5*).

Professional and kindred workers: In this group e classed workers who have a background of iining that includes a minimum of a college ucation or a special technical course of 2 years more, and persons whose responsibility is plan, supervise, direct, or guide the work of hers. Typical of the occupations included in is category are lawyers, athletic officials, drafts- en, and managers. Factory foremen and crew ıpervisors have not been included as managers ıt are classified as skilled or semiskilled.

Sales: In the salespersons group are classed :rsons directly identified with transactions in ıe exchange of commodities and services. Groc- ·y clerks, department store salesmen, soda erks, purchasing agents, and insurance salesmen ·e typical of this group.

Clerical workers: In this group are classed ersons engaged in preparing, transferring, :anscribing, systematizing, or preserving writ- :n communications and records. Their work ; usually of a routine nature. Typists, comp-)meter operators, messengers, and shipping clerks are typical of this group.

Service: In this group are included persons who clean and care for buildings, streets, or wearing apparel, or who prepare or serve food. Maids, cooks, street cleaners, watchmen, janitors, and laundresses are placed in this category.

Skilled workers or craftsmen: In this category are placed persons whose work requires that they have a long period of training, possess a high degree of manual dexterity, and exercise considerable independent judgment. Blacksmiths, machinists, tool makers, and millwrights are placed in this group.

Semiskilled or production workers: In this group are placed persons whose work requires little independent judgment but considerable manual dexterity. While their jobs do not require long periods of apprenticeship, usually more than a few days are needed for them to attain normal efficiency. Included in this category are car tenders, threading machine operators, linoleum layers, and bench hands.

Unskilled or physical laborers: In this group are placed persons who do simple, rough work. Their activity is almost wholly muscular, and they can usually be trained in a day or so. Ashmen, billposters, and deckhands are included in this classification.

TABLE 3.—*Expected number of males employed in each age interval at age of 40 to ag for each 1,000 men alive*

Age	Death rate per 1,000*	Number dying in interval	Number surviving in each age group	Percentage employed**	Estimated number employed
40–41....	6.79	6.79	1,000.00	93.3	933.0
41–42....	7.19	7.14	993.21	93.3	926.7
42–43....	7.65	7.54	986.07	93.3	920.0
43–44....	8.16	7.98	978.53	93.3	912.96
44–45....	8.73	8.47	970.55	93.3	905.5
45–46....	9.35	9.00	962.08	92.5	889.9
46–47....	10.01	9.54	953.08	92.5	881.6
47–48....	10.72	10.11	943.54	92.5	872.8
48–49....	11.45	10.69	933.43	92.5	863.4
49–50....	12.24	11.29	922.74	92.5	853.5
50–51....	13.08	11.92	911.45	91.5	834.0
51–52....	14.00	12.59	899.53	91.5	823.1
52–53....	15.00	13.00	886.94	91.5	811.6
53–54....	16.11	14.08	873.94	91.5	799.7
54–55....	17.32	14.89	859.86	91.5	786.8
55–56....	18.65	15.76	844.97	91.0	768.9
56–57....	20.10	16.67	829.21	91.0	755.7
57–58....	21.69	17.62	812.54	91.0	748.2
58–59....	23.42	18.62	794.92	91.0	732.1
59–60....	25.32	19.66	776.30	91.0	714.8
60–61....	27.39	20.72	756.64	90.9	687.8
61–62....	29.67	21.83	735.92	90.9	667.8
62–63....	32.17	22.97	714.09	90.9	646.4
63–64....	34.90	24.12	691.12	90.9	628.2
64–65....	37.87	.....	667.00	90.9	596.3
Total....	.....	.....	21,698.00	....	19,960.8

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* Dublin, L. I.; Lotka, A. J.: Twenty Years of Health Progress, New York, The Metropolitan Life I Co., 1937, p. 34.

** Sixteenth Census of the United States, 1940, Washington, D. C., U. S. Govt. Printing Office, 1943, II, part 1, p. 19.

TABLE 4.—*Expected number of females in each age interval from median age to 65 ye*

Age	Death rate per 1,000*	Number dying in interval	Number surviving in each age group
41–42...........	7.19	12.61	1,754.00
42–43...........	7.65	13.32	1,741.37
43–44...........	8.16	14.10	1,728.05
44–45...........	8.73	14.96	1,713.95
45–46...........	9.35	15.89	1,698.99
46–47...........	10.01	16.85	1,683.10
47–48...........	10.72	17.86	1,666.25
48–49...........	11.45	18.87	1,648.39
49–50...........	12.24	19.95	1,629.52
50–51...........	13.08	21.05	1,609.57
51–52...........	14.00	22.24	1,588.52
52–53...........	15.00	23.49	1,566.28
53–54...........	16.11	24.85	1,542.79
54–55...........	17.32	26.29	1,517.94
55–56...........	18.65	27.82	1,491.65
56–57...........	20.10	29.42	1,463.83
57–58...........	21.69	31.11	1,434.41
58–59...........	23.42	32.87	1,403.30
59–60...........	25.32	34.69	1,370.43
60–61...........	27.39	36.59	1,335.74
61–62...........	29.67	38.54	1,299.15
62–63...........	32.17	40.55	1,260.61
63–64...........	34.90	42.58	1,220.06
64–65...........	37.87	44.59	1,177.48
Total........	.....	.....	36,545.00

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* Dublin, L. I.; Lotka, A. J.: Twenty Years of Health Progress, New York, The Metropolitan Life Ins. 1937, p. 34.

TABLE 5.—*Estimated working man-years to age of 65 for each occupational group taking into account average mortality and the percentage ordinarily employed in each age group*

Occupation	Studied group distribution	Estimated distribution of 1940 first admissions	Median age of group	Estimated number of years lived to age 65 per 1,000 alive at median age*	Accumulated man-years to age 65	Estimated working years to age 65 per 1,000 alive at median age*	Accumulated working man-years to age 65
Professional	14.3	778	44	21,059	16,384	19,371	15,071
Sales	15.7	854	42	21,396	18,272	19,680	16,680
Clerical	4.9	267	40	21,698	5,793	19,961	5,330
Service	9.5	517	42	21,396	11,062	19,680	10,175
Skilled	29.2	1,589	41	21,551	34,245	19,826	31,504
Semiskilled	12.0	653	41	21,551	14,073	19,826	12,925
Unskilled	14.4	784	42	21,396	16,774	19,680	15,429
Total	100.0	5,442	42	.....	116,603	.....	107,114

* Obtained by multiplying 21,698 by number surviving into median age group.

41 through age 65 is computed using death rates of the Metropolitan Life Insurance Company (*7*). Thus 65 is arbitrarily chosen as the age of probable retirement. For 1,000 men alive at age 40, 667 would ordinarily be alive at age 65 and 21,698 years would be lived by the group in this interval. Even in years of peak employment not all employable persons are profitably engaged; therefore, to the number surviving in each age group is applied a percentage to compensate for ordinary unemployment (*8*). The expected number of gainfully employed years for this group in this age interval is seen to be 19,961 years. In table 4 a similar method was used to calculate the expected years of life of the 1,754 female admissions. For female individuals no correction was made for ordinary unemployment.

By reference to table 3 the total working years from the median age for each occupational group to age 65 can be determined. In table 5 the estimated number of years survived to age 65 and the estimated number of working years is calculated for each occupational group of male patients for first admissions for paresis in 1940.

If all paretic patients who entered mental institutions remained there until death, this estimate of working years would be the estimate of man-years lost because of paresis. However, since it is possible, with modern therapy, to return some to their normal occupation, it is necessary to calculate a "percentage loss of earning

TABLE 6.—*Method of computing percentage loss of earning capacity of first admissions for paresis to State institutions in 1940**

	Male	Female
(a) Total first admissions	4,417	1,595
(b) Discharged as "recovered"**	223	88
A. Percentage of recovery (b ÷ a)	5.0%	5.5%
Percentage of loss	95.0%	94.5%
(c) Discharged as "recovered" or "improved"	1,597	703
B. Percentage of recovery (c ÷ a)	36.2%	44.1%
Percentage of loss	63.8%	55.9%
(d) Total discharges (recovered, improved, unimproved)	1,824	787
(e) Readmissions	528	224
(f) Discharges less readmissions	1,296	563
C. Percentage of recovery (f ÷ a)	29.3%	35.3%
Percentage of loss	70.7%	64.7%

* Patients in Mental Institutions, 1940, U. S. Bureau of the Census.

** "Recovered" indicates the condition of a patient who has regained his normal mental health and has practically the same mental status as he had previous to the onset of his psychosis. "Improved" denotes any degree of mental gain less than recovery. "Unimproved" denotes no mental gain.

capacity." This percentage loss of earning capacity is computed in table 6 in 3 ways, designated "A," "B," and "C."

Percentage A.—In this case it is assumed that only patients discharged as "recovered" will be in a position to return to their former economic status. No recognition is made of the fact that some, if not all, of the patients discharged as "improved" may recover, in whole or in part, their former earning capacity. It will be noted in table 6 that this rate is 5 percent for male and 5.5 percent for female patients. This may be regarded as the minimum rate of return. The corresponding rate of loss is 95 percent for male and 94.5 percent for female.

Percentage B.—While it is obviously improbable that all patients discharged as either "recovered" or "improved" will fully recover their former earning capacity, it is assumed in this case that they do so return to their preparetic economic status. The assumption is also made that those patients discharged as "unimproved" (about 5 percent of all discharges) never return to any gainful employment. The slight error here, however, should be more than offset by the first assumption. As about 80 percent of all patients discharged as "recovered" or "improved" have a duration of hospital life of 1 year or less (*9*), and as the first admissions do not vary widely from year to year, it is considered justifiable to apply the discharges for any one year to the first admissions for that year. The loss of income for discharged patients during their brief stay in the hospital is also ignored.

The ratio of "recovered" and "improved" to first admissions for any one year should thus give a maximum rate of return to former earning capacity and the corresponding percentage of loss of earning capacity can be regarded as a minimum.

$$\frac{\text{"Improved" plus "recovered"}}{\text{First admissions}} = \text{Ratio of return}$$

The percentage of loss calculated by this method is 64 percent for male and 56 percent for female patients.

Percentage C.—It will be noted that percentage B does not take into account "readmissions" even though we know that some of those patients discharged as "recovered" or "improved" will subsequently relapse and be readmitted. Percentage C attempts to make an adjustment for these cases. The assumption is made that readmitted patients consist of those discharged as unimproved; the balance is applied to "recovered" and "improved." It is realized that the readmissions in any one year do not apply to the discharges for that year but, as the variations from year to year are small or exhibit a slight upward trend, it is considered justifiable to apply them in that manner.

The ratio of return to earning capacity is found by taking the discharge minus the readmissions as a ratio of the first admissions.

$$\frac{\text{All discharges minus readmissions}}{\text{First admissions}} = \text{Ratio of return}$$

As can be seen in table 6, this rate of return is 29 percent for male and 35 percent for female patients. The corresponding rates of loss are 71 percent and 65 percent, respectively. The percentage loss of earning capacity should not be exaggerated by this method and will be used in computing man-years lost due to the involvement of paresis.[2]

In table 7 the percentage loss of earning capacity is applied to the accumulated working years in table 5 for each occupational group to obtain a figure for estimated man-years lost. The not inconsiderable figure of 75,729 man-years of work lost annually in the United States due to paresis is estimated. If the percentage ordinarily unemployed is not considered, the estimated figure for loss of man-years is 82,438. The estimated loss of years among women, found by applying the percentage loss for female (64.7 percent) to the 36,-

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[2] Pollock (*10*), in computing a rate of loss for paretic patients in New York State in 1930, obtained a figure of 75 percent. More effective therapy since the introduction of mechanical means for inducing fever would account for our lowered figure. A rate computed by the above method for 1933 gives a rate of loss of 77 percent for male and 79 percent for female patients, further indicating the advances in fever treatment.

LE 7.—*Calculation of accumulative loss of man-years and corresponding income for each occupational group*

Occupation	Accumulated working man-years to age 65	Estimated man-years lost (70.7%)	Median income for group in dollars	Estimated loss of income
ssional	15,071	10,655	2,921	31,123,255
	16,680	11,793	1,653	19,493,829
cal	5,330	3,768	1,651	6,220,968
ce	10,175	7,194	1,034	7,438,596
ed	31,504	22,273	1,276	28,420,348
skilled	12,925	9,138	1,234	11,276,292
illed	15,429	10,908	772	8,420,976
Total	107,114	75,729	.....	112,394,264

years of life estimated from table 4, is 45. Adding years lost among both and women results in a total of 106,- years of life lost because of paresis.[3] se estimates are conservative, and cerly should not exaggerate the problem. erhaps the most striking figure is the roximate 30,000 years of work lost ually among skilled and semiskilled kers because of paresis. In times of onal emergency and war production grams, no argument is needed to bring e the effect of such an annual loss. is preferred to express the economic due to paresis as 75,729 man-years and 45 woman-years because this is a cont value. Changes in the value of ey or changes in our economic system make meaningless any figure of money of income. However, for purposes nterpretation, these losses can be exsed in monetary terms.

he present worth of the net future ings for the male admissions, calcud by the method used in "The Money Value of a Man," is approximately $56,-000,000 and the present value of the gross earnings is $81,000,000 (*6*). The present worth of gross future earnings is calculated by Dublin and Lotka for any year from birth on, based on the estimated maximum earning capacity of varying amounts. In this computation, normal mortality and normal percentage employment is assumed. In addition, the present worth is discounted at 3½ percent compound interest.

In this paper, however, concern is not in the present value of the future earnings of the first admissions for paresis in 1940. Instead, a figure is sought for total money loss in 1940 because of impaired earning capacity due to paresis. To find such a figure, it would be necessary to take the first admissions for the various preceding years and estimate how many of each year's admissions would ordinarily be employed in the year of 1940. The result would be the best estimate of the loss of income due to paresis in 1940. However, it is not possible to determine this figure, since it would be necessary to base our calculations on the first admissions for paresis for approximately the last 25 years, and these data are not available.

If it can be assumed that the first admissions for paresis are constant from year to year, then it would not make any difference whether the loss of man-years in any one year were the number cal-

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This does not differ greatly from the 99,000 nated by the Committee on Prevalence, Ince and Trend of Syphilis (*11*). However, estimate of the committee is based on the al deaths from paresis, whereas that of the ent article considers the impairment of earncapacity, whether due to death or incapacin. On the other hand, the figure calculated concerns only the loss of years to age 65, age at which employment usually ceases. ideration has also been given to the fact there is ordinarily an unemployed group in general population.

culated from the first admissions for the various years or the number estimated for future years, calculated from the first admissions for that year. Figures from "Patients in Hospitals for Mental Diseases" indicate that the first admissions for paresis have exhibited a slow upward trend, with a tendency to level off in 1933. It is not expected that much further increase will be shown; in fact, some years from now a decrease is to be expected when the results of the present antisyphilis campaign begin to become apparent. It is assumed that the accumulated loss of man-years, as calculated, is a fair estimate of the actual loss of man-years in 1940 due to paresis. For this reason, it was not held necessary to discount, and this method of calculation is preferred to the method used in "The Money Value of a Man."

The present worth of the net future earnings, estimated according to the method described by Dublin and Lotka, is approximately 56 million dollars. In addition to the discount, the cost of subsistence or maintenance is deducted. As it is hard to differentiate the social consequences of expenditure for necessities as opposed to luxuries, it is not considered necessary to make any deduction for subsistence in this paper. The attempt here is to estimate the loss of money income of paretics on the basis of normal mortality and employment. How that income is spent is not a part of this article. The definition of subsistence varies with the times, and it is held not economically justifiable to try to differentiate between the effect on the community of that part of the income spent on bread as opposed to that part spent on automobiles.

From the income data in the clinical group, a median income was calculated for each occupational group. It may be seen that the median income given in table 7 ranges from $2,921 for the professional group to $722 for the unskilled laborers. As the incomes in the clinics were given in terms of excellent, good, fair and poor, a straight line distribution was assumed in each classification. Due to the nature of these employment groups the assumption of a straight line distribution may not be justified, but the figures appear r sonable for a prewar period.

The economic loss due to paresis in 19 as calculated, is 75,729 man-years and 645 woman-years. The money loss the total males, on the basis of the come groups given in the clinic figu is estimated as $112,394,264. No eff is made to estimate the money earned women, as the occupational data availa for females were insufficient.

These costs incurred by the loss. productivity among paretics by no me represent the total cost of paresis to ciety. The resident paretic patient po lation at the end of 1939 was 20,936 State hospitals and 5,143 in Veterans' ministration hospitals (*3*). The aver annual per capita expenditure for 1940 $361.47 in State hospitals and $741.60 veterans' hospitals (*3*). The cost maintenance of paretics in 1940 theref was $7,577,496 in State hospitals and $ 814,049 in veterans' hospitals—over million dollars for maintenance alo Furthermore, this is not the sole expen ture out of State funds, incurred on half of mental patients. State instituti have to be built and the annual inve ment charge is an item which has to met. Again, the charge for general ministration of the departments of men hygiene in the various States must be tal into account in calculating the cost maintaining paretics in State instituti in the United States. It was not conside advisable to attempt to estimate the p tion of these charges necessitated paresis, but the cost of maintenance a operation is available for all State ins tutions and is easily prorated.

The above estimates are of course re tive for time and place. The variati in the average cost of maintaining paret as between States is tremendous; it var from $666.21 in the District of Colum to $147.31 in Kentucky. This is so, only because the cost of maintaining paretic varies in different communiti but also because some States give m complete care than others. The cost maintenance, in addition to basic cost su as food and labor, depends upon the qua ty and quality of care furnished. The ost that can be said is that the annual st of maintaining paretics in State in- itutions in the United States in any one ar is the cost of maintaining 19,482 retics, and the amount of money involved pends upon the quality of their care.

No figures are available for the cost f maintenance of paretics resident in unty and city hospitals and private hos- itals. There also is a cost incurred for ch of the approximately 1,600 paretics dmitted annually to State psychopathic ospitals and the psychopathic wards of eneral hospitals, even though the dura- on of hospital life is short. Certainly e figure of $11,391,545 is an underesti- ation of the cost to the taxpayers of the nited States of maintaining paretics, but is a definite, calculable cost.

Interestingly enough, the six States, ew York, Illinois, Ohio, Michigan, Penn- ylvania and California, have approxi- ately half the resident paretics in the nited States. Two possible explanations r the apparently high prevalence of aresis in these States may be greater vailability of facilities and the fact that e incidence of paresis is apparently reater among white than Negro syphi- tic patients. However, it is noteworthy at these are not the States of high revalence of syphilis.

SUMMARY

The estimate of the annual loss of work- g years of life in the United States due paresis is 75,729 man-years and 23,645 oman-years. Divided into occupational roups, the figure for men represents 10,- 55 professional; 11,793 sales; 3,768 cleri- al; 7,194 service; 23,273 skilled; 9,138 emiskilled; 10,908 unskilled.

A calculation of the money loss of in- ome amounts to approximately 112 million ollars for men. Because of lack of in- rmation regarding earning capacity, no ffort was made to calculate a money loss r women.

The cost of maintenance of paretics in 940 is estimated as approximately 7.5 mil- ion dollars for an average resident population of 20,963 in State hospitals and 3.8 million dollars for an average patient population of 5,143 in Veterans' Administration Facilities.

Paresis is only one of the late manifestations of syphilis; it is not the only cause of insanity due to syphilis. Yet the direct cost to the taxpayer of maintaining paretics is over 11 million dollars annually. Syphilis, if adequately treated early in the course of the disease, does not progress to the late stages. A vigorously prosecuted antisyphilis program can reduce the incidence of paresis in two ways: (1) by preventing the spread of the infection and (2) by finding and treating early cases of the disease and cases of beginning neurosyphilis.

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CURRENT LITERATURE

Note: Abstracts of any article listed below are available on request. In addition, abstracts of all articles concerned with venereal diseases or related subjects which have been published in the better known journals both here and abroad during the past 20 years are in the files. These are open to workers in the field. An asterisk (*) before a title indicates that the article is abstracted below.

AM. HEART J., ST. LOUIS

Coronary occlusion after fever therapy for sulfonamide-resistant gonorrheal urethritis. Abner M. Harvey and Frederick T. Billings. 29: 205-212, Feb. 1945.

AM. J. CLIN. PATH., BALTIMORE

Micro-methods of estimating penicillin in blood serum and other body fluids. Alexander Fleming. 15: 1-6, Jan. 1945.

Laboratory anticipation of sulfonamide resistance in gonorrhea. Ruell A. Sloan, Robert D. Baker and Byron W. Fraser. 15: 24-27, Jan. 1945.

AM. J. M. SCI., PHILADELPHIA

*The enhancement of the plasma concentration of penicillin in dogs by the simultaneous administration of para-aminohippuric acid, III. Karl H. Beyer, W. F. Verwey, Roland Woodward, Lawrence Peters and Paul A. Mattis. 209: 608–621, May 1945.

*Acute syphilitic meningitis: A discussion of the problems encountered in the diagnosis. Albert Heyman. 209: 664-671, May 1945.

The enhancement of the plasma concentration of penicillin in dogs by the simultaneous administration of para-aminohippuric acid, III.—This is the third of a series of papers concerning the effect of the simultaneous administration of the sodium salt of p-aminohippuric acid (PAH) and penicillin upon the plasma concentration and renal elimination of penicillin. Evidence previously published indicated that when PAH was infused continuously, single injections of penicillin resulted in a prolonged maintenance of a determinable plasma concentration of the drug and in a marked extension of the period of its excretion as well as a definite decrease in the rate of excretion and in the total amount of penicillin recovered thereby per unit time. The evidence supported the conclusion that this effect was brought about by a competition between PAH and penicillin for the same excretory mechanism of the renal tubular epithelium. It was thought desirable to collect data permitting an appraisal of the competitive affinity of penicillin and PAH for the same renal intracellular transport system and of its importance and upon which to base a histopathologic evaluation of cellular damage resulting from the use of these substances over a prolonged period. To this end, experiments were carried out wherein penicillin alone or penicillin and PAH were infused continuously over periods of 36 to 54 hours.

The methods and apparatus used have been previously described.

The authors summarize their findings as follows:

In these experiments it was shown that the combined intravenous administration of penicillin and sodium p-aminohippurate could be carried out continuously over a period of at least 48 hours without the occurrence of morphologic or functional changes directly attributable to these two compounds.

The intravenous administration of PAH to maintain plasma concentrations of about 30 mg./100 cc. invariably resulted in an increase in penicillin plasma concentration of from 2½ to 4 times the base level, even though the concentration of penicillin was not varied. The stepwise increase in plasma PAH concentration above the level of 30 mg./100 cc. resulted in a further elevation of the penicillin plasma level although this was not a commensurate increase.

The effect of PAH in increasing the plasma concentration of penicillin was always reflected in a decrease in the renal clearance of penicillin.

Since PAH could not be demonstrated to be nephrotoxic by any method which we used, these findings support the concept that the effect of this compound is purely one of physiologic competition with penicillin for a common renal tubular excretory mechanism.

ıcute syphilitic meningitis: A discusı of the problems encountered in the gnosis.—The author presents a gen- review of the diagnostic and therapeudifficulties encountered in the handling cases of acute syphilitic meningitis. ːse problems are illustrated by referːs to 9 cases met with during the past ːars.

'he author's summary follows:

'uring the past 2 years we have obʼed 9 cases of acute syphilitic meningi- 5 of which presented diagnostic diflties.

'espite the rarity of its occurrence, 2 ːs of syphilitic meningitis appeared dur- the course of regular bismuth therapy. everal of our patients with this synme responded without syphilitic treatıt. Since other types of lymphocytic ıingitis may improve coincidently with ːific therapy, a therapeutic response to ːnicals is usually of little value, though times helpful in the diagnosis of acute hilitic meningitis.

n 1 case of syphilitic meningitis in which ːe was a history of head trauma, the sence of papilledema was the source of gnostic error.

n the highly syphilitic population of this ion, falsely positive spinal fluid Wasserın tests are not infrequently observed in phocytic meningitides. One case of hilitic meningitis is reported in which a ative spinal fluid test for syphilis apred after the onset of clinical symptoms. thholding treatment in such cases seems isable in order to establish a definite gnosis of syphilitic meningitis.

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*Infectivity of Hemophilus ducreyi for the rabbit and the development of skin hypersensitivity. Rose R. Feiner, Franco Mortara and Esther Levenkron. 29: 71–79, Jan. 1945.

Venereal disease in the major armies and navies of the world. Josephine Hinrichsen. 28: 736–772, Nov. 1944; 29: 80–124, Jan. 1945; 29: 229–267, Mar. 1945.

Infectivity of Hemophilus ducreyi for the rabbit and the development of skin hypersensitivity.—This paper reports the results following intradermal injection of rabbits with Hemophilus ducreyi. In agreement with earlier workers, the authors found that intradermal or multipressure inoculation of living, virulent organisms produced lesions in the animals. The infection was self-limited and did not go beyond the pustular stage and was, therefore, somewhat different from that occurring in naturally acquired chancroid or from those resulting from experimental inoculation of pure cultures in man, but in the authors' opinion, it may lend itself to further experimental studies.

Injections by routes other than the intradermal or multipressure or with heat-killed organisms was without effect. H. ducreyi could be isolated in pure culture from lesions in the animals, and such cultures could reproduce the lesions in new animals, and could again be recovered.

A skin hypersensitivity to H. ducreyi vaccine lasting for at least 3 months developed following the production of the lesions by intradermal injections of living virulent organisms. Neither the repeated intradermal injection of the vaccine itself, nor the injection of living organisms by other routes resulted in the appearance of sensitivity. Ducrey sensitive rabbits did not react to lymphogranuloma venereum skin test antigen.

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Penicillin treatment for gonorrhe
The author reports the results of in
muscular injections of penicillin in 225
tients with gonorrhea. The cases incl
in this study are divided into 3 groups
cording to the different doses and inter
used.

Group 1, composed of 39 patients, ne
half of whom had received previous che
therapy, received a total of 75,000 unit
penicillin in doses of 15,000 units at 3-
intervals. The follow-up period was
proximately 2 weeks, and the criteria
cure were (1) absence of urethral exud
(2) a clear 2-glass urine test, and
negative urine cultures during the foll
up period. Of these 39 patients, 31 (
percent) were considered cured. The
maining 8 were relieved of symptoms
urethral discharge for a period of 2½
10 days, before the urethral discharge
curred, or the routine morning urine
tures became positive for gonococci. T
failures were retreated with 100,000 u
and all responded except 1 patient who
apparently cured by a third course of 2
000 units of penicillin.

Group 2 comprised 116 patients, mos
whom had received previous sulfonan
therapy. On the basis of 10-14 days'
servation, 106 (91.3 percent) of this gr
responded to treatment consisting of 5
jections of 20,000 units at 3-hour inter
The 10 (9.7 percent) failures were ap
ently cured by a second course of 100
units. Four of these had no clinical sy
toms of gonorrhea, but cultures reve
gonococci.

Of the 70 patients in group 3, 43 (
percent) responded to treatment of 50
units, and the remainder received fur
treatment. Seven were given 100,000 u
as they were required to return to dut
once; 6 responded satisfactorily,
seventh was retreated with 200,000 u
but failed with this dosage also and
listed as a complete penicillin failure.
remaining 20 received a second cours

00 units, which apparently cured 9 (45 ent). The 11 failures, along with the iilure previously mentioned, making a 1 of 12, received 200,000 units. Eight onded satisfactorily. The remaining 4 ents (5.7 percent of the original 70 pa- ts in group 3) were complete failures were considered penicillin resistant. ee of these finally responded to sulfona- e drugs, and the fourth was still under ervation and still had negative smears cultures at the time this report was tten.

mong patients treated with 50,000 units, rly half (41.4 percent) had negative ears within 24 hours after treatment, later (after a period varying from 24 irs to 31 days) became positive again. patients who had been negative clin- lly and bacteriologically for a period of weeks or more developed positive urine tures the day after sounding of the terior urethra or gentle prostatic mas- ge. Such cases represent hidden failures covered by these methods. They indicate it observation for 1 to 2 weeks may not ovide adequate criteria of cure following eatment for gonorrhea.

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*The inadequacy of a standardized dosage of penicillin in the treatment of gonococcic urethritis. Rocco G. Lapenta, Abraham M. Weckstein and Herbert Sarnoff. 128: 168–170, May 19, 1945.
The epidemic outlook in Europe. Knud Stowman. 128: 185-188, May 19, 1945.
Persistence of cutaneous lesions in syphilis. Queries and Minor Notes. 128: 396, June 2, 1945.

Oral administration of penicillin.—This article is the preliminary report of an attempt to determine whether or not therapeutic blood levels of penicillin could be obtained by the oral administration of the drug in capsules.

Powdered sodium penicillin was administered in double capsules, the outer ones having been hardened by immersion in formaldehyde and alcohol. Aluminum hydroxide to inactivate the hydrochloric acid was administered 30 minutes before the capsule.

It was found that administration of 200,000 units of penicillin by this route produced a rapid rise in the blood level during the first half hour, followed by a moderately rapid fall with therapeutic levels present up to 4 or 5 hours after ingestion. Doses of 100,000 units produced similar results but with lower peak levels and maintenance of therapeutic levels between 2 and 3 hours in most cases. Results were somewhat better when the penicillin was given before meals than one half hour after meals.

The authors present the following conclusions:

(1) Adequate penicillin blood levels were obtained by oral administration when the drug was protected from the inactivating action of the hydrochloric acid in the stomach.

(2) Penicillin concentrations determined after ingestion of 100,000 units compared favorably and in some respects surpassed those obtained after administration of 40,000 units parenterally. When 200,000 units were ingested, higher and longer sustained levels were observed, suggesting that prolongation and blood concentrations are directly proportional to the dosage employed.

(3) No objective or subjective symptoms of toxicity were observed after single oral doses of 100,000 and 200,000 units of penicillin.

The inadequacy of a standardized dosage of penicillin in the treatment of gonococcic urethritis.—The authors report an investigation of the rapidity of bacteriologic cure of gonococcic urethritis during the administration of penicillin.

Urethral cultures were taken in each of 113 patients 3 hours after the initial dose of 20,000 units of penicillin and before each of the succeeding 4 doses of 20,000 units each. A prostatic culture was taken on each patient 3 hours after the injection of the final dose. Each patient was then under restriction without possibility of reexposure and was followed until judged bacteriologically cured, the criterion of cure being 3 negative prostatic cultures over a period of 21 days following the last dose of penicillin.

Cultures were also taken during a 21-day period of restriction on 106 other patients treated with 100,000 units of penicillin in outlying dispensaries. The test of cure applied to these cases, also, was 3 negative prostatic cultures. The results were used to substantiate those of the experimental study on 113 cases.

During the 3-month period in which the study was carried on, there was not a single readmission from the experimental group for gonococcic urethritis following the 3 negative cultures.

Analysis revealed that 67.2 percent of the white male and 75 percent of the Negro
male patients were cured with the 100,0
unit dosage.

The following conclusions and rec
mendations are stated:

1. Clinical cure is not necessarily an
dication of bacteriologic cure in patie
with gonococcic urethritis.

2. Seventy percent of the cases of go
coccic urethritis were cured with a dos
of 100,000 units of penicillin.

3. Doses of 200,000 or 300,000 units
penicillin given in 20,000-unit doses int
muscularly every 3 hours seem to be
more adequate dosage, since 89 percent a
97 percent of the cases were cured, resp
tively, with these doses.

4. Positive cultures for the gonococ
may appear from 2 to 19 days following
adequate therapy with penicillin.

5. Patients with gonococcic urethri
should have prostatic cultures at week
intervals for at least 3 weeks followi
penicillin therapy.

6. Three negative cultures taken at wee
ly intervals following penicillin thera
seem to be an adequate indication of ba
teriologic cure.

7. Diagnoses by cultural methods are f
more reliable than those obtained fro
smears.

8. Determination of bacteriologic cure
dependent on adequate culture methods a
interpretations by a trained bacteriologi

J. AM. PHARM. A. (PRAC. PHARM. ED
EASTON

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J. ARKANSAS M. SOC., LITTLE ROCK

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*Gonorrhea in Italy. Herbert J. Bell. 84: 21–26, Jan. 1945.

. M. Soc., New Jersey

*State of New Jersey Department of Health. State Activities. 42: 114–115, Apr. 1945.

Gonorrhea in Italy.—This paper describes the failure of sulfonamide therapy in patients with the unusually severe type of gonorrhea met with among troops of the British Army in Italy. Results of therapy are reported in 3 groups consisting of 100, 100, and 300 patients, respectively. Group 1 represented the most chronic cases in western Italy, and it is analyzed to show the condition of patients immediately before their selection for penicillin treatment; patients in group 2 were given penicillin earlier than those in group 1 because the military situation demanded that hospital beds be cleared; group 3 is made up of patients selected at random from among those treated with sulfonamide who never received penicillin.

Of the patients in group 1, 76 percent received 3 or more courses of sulfonamides, the average time spent in the hospital was weeks, only 10 cases were uncomplicated, and only 1 showed signs of sulfonamide poisoning. The complications, which are listed, were local rather than systemic.

In group 2, 41 percent of the patients had 3 or more courses of sulfonamides, 32 percent spent 6 weeks or more in the hospital, and the record of complications is practically the same as in group 1.

In group 3, only 25 percent were cured by 1 course of treatment and the average number administered lay between 2 and 3; the average time spent in the hospital was 5 weeks, and 58 percent had complications.

The sulfonamides were reinforced by TAB shock therapy in 40 percent of all cases treated.

After a minimum observation period of 3 months, the condition of almost 10 percent of the patients was found unsatisfactory, 7 percent on account of persisting prostatitis and 3 percent on account of urethral stricture of mild degree. In no cases were gonococci found in the prostatovesicular smear. In 70 cases of prostatic infection, careful follow-up showed the prostatic smear did not return to normal until 7 or 8 weeks after discharge from the hospital.

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The communities respond to the call to social hygiene day. Eleanor Shenehon. 31: 184–191, Mar. 1945.

Postwar social hygiene problems and strategy.—The experience of the first World War suggests that following the present war, there may occur (1) a let-down in efforts to repress prostitution and promiscuity and a recrudescence of flagrant prostitution conditions in many cities; (2) an increase in the prevalence of syphilis and gonorrhea growing out of the above conditions and similar let-downs in finding, holding and curing cases; (3) unsound financial and administrative restrictions which would result in eliminating trained personnel and otherwise handicapping essential public health, medical, social, and educational activities at the Federal, State, and local levels.

Since the beginning of mobilization in 1939, practically all commercialized prostitution districts and large scale activities have been eliminated; a vast and generally effective plan of venereal disease control is being carried out among the large proportion of the Nation's young men in the Army and the Navy by the cooperation of civil and military health authorities. Conditions generally are good. This great national improvement is primarily the result of work undertaken as a patriotic wartime duty to protect members of the Armed Forces and war workers..

Studies made by the American Social Hygiene Association in every important population center of the United States indicate that promoters of commercialized prostitution believe they can revive their lucrative business when the war ends. When large numbers of young men no longer subject to the venereal disease control program of the Armed Forces experience the sense of let-down, confusion, and uncertainty which will follow the war, they are likely to expose themselves to infection and in turn will spread infections of syphilis or gonorrhea or both.

In 1918, under the impetus of World War I, Congress passed an Act which set up the United States Interdepartmental Social Hygiene Board, created the Division of Venereal Disease in the United States Public Health Service and appropriated funds for these agencies to aid the States in institution of vigorous programs against venereal disease. There was developed a comprehensive and effective program, which was, however, curtailed in the middle twenties in the interest of economy with the result that the work became static or died out. Years of patient work were required to rebuild adequate local and State activities and to secure public approval for expenditures essential for venereal disease control. By 1938, the Venereal Disease Control Act with an initial appropriation of 3 million dollars, most of which was allocated among the States as grants-in-aid, was passed by the Congress. Under this Act, equipment and trained personnel became available for the development of State programs. The amounts of Federal appropriations and of funds budgeted and activities reported for venereal disease control in States and Territories for the fiscal years 1939-1944 are shown in a table.

Following the war, a great wave of economy in Federal expenditures is to be expected; consequently, every effort must be put forth to prevent the reduction of Federal support for the control of venereal disease to an extent that would bring about the disintegration and collapse of this important program for human health and welfare. Three steps toward that end are (1) the great educational program under the national leadership of the United States Public Health Service and the American Social Hygiene Association must be continued and strengthened; (2) the proportion of the total cost of the program borne by State and local units of government should be increased, so that reduction and eventual discontinuance of Federal aid can be accomplished without endangering success in stamping out these diseases; (3) any tendency toward the lessening of public interest in State aid for venereal disease control must be combated.

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v ENGLAND J. MED., BOSTON

he effect of penicillin in inoculation malaria. J. A. Hindle, A. S. Rose, L. D. Trevett and C. Prout. 232: 133–136, Feb. 1, 1945.

he effect of penicillin on inoculation laria.—During investigations on the of penicillin in neurosyphilis, 28 pa- its received both penicillin and benign tian malaria. Fifteen of these had peni- in administered simultaneously with the laria. The results are reported in this per.

he 15 cases were divided into 2 groups. group 1 (6 cases), penicillin was ad- nistered after the development of fever d parasitemia. In group 2 (9 cases), nicillin was started before the develop- nt of fever, 4 of the patients receiving nicillin a few days before the malarial culation, and 5 patients at approximately time of the inoculation. A total dose 3,000,000 units was given to each pa- nt, in intramuscular injections of 50,000 its at 4-hour intervals over a period of days. To approximately 20 patients in later series, the same total dose was ven in 50,000-unit doses at 2-hour inter- ls over a 5-day period.

It was found that penicillin did not sup- ess fever or the parasite count of active culation malaria and that when given fore or at the time of the malaria inocu- tion it did not prevent or postpone the velopment of fever and parasitemia. The thors reason that since penicillin does t have an antimalarial effect on inocula- on of Plasmodium vivax malaria, it will t be effective in other types of the dis- se or in naturally acquired malaria.

EW YORK STATE J. MED., NEW YORK

*Further observations on one-day treatment of syphilis with fever and mapharsen. Nathaniel Jones, Joseph L. Hundley, Allen E. Walker, Charles M. Carpenter, Stafford L. Warren and Henry Hanson. 45: 277–280, Feb. 1, 1945.

Sudden and unexpected natural death—general considerations and statistics. Milton Helpern and S. Milton Rabson. 45: 1197–1201, June 1, 1945.

Further observations on one-day treatment of syphilis with fever and mapharsen.—Observations over an additional period of 8 months on a group of 280 patients whose treatment for early syphilis with fever and mapharsen has previously been published are reported in this paper, together with data on similar treatment of 141 additional patients observed for a minimum period of 3 months. In reporting the results of treatment, the authors did not differentiate between the patients of the 2 groups.

Patients selected for the study were limited to those with clinical evidence of early syphilis who denied previous antisyphilitic treatment. The treatment consisted of concurrent use of fever and mapharsen. Three schedules were used. Schedule A provided for the administration of 1 mg. mapharsen per kilogram of body weight during the induction period of the fever but before the temperature reached 39.5°C. Schedule B: the same amount of the drug was injected intravenously in the evening, and fever therapy was carried out the next day, followed by a second injection of 1.5 mg. of mapharsen per kilogram. Schedule C: mapharsen in the amount of 2 mg. per kilogram of body weight was administered at the termination of the fever. Fever therapy consisted of the elevation of the temperature to 41.1°C. (106°F.) during 2 hours and the maintenance of that temperature for 5 hours.

Results were reported as follows: Seventy-eight patients were treated according to schedule A and were observed 22 to 30 months. Of these, 15 (19 percent) showed clinical relapse, 1 a serologic relapse, and 6 were reinfected. One hundred and thirty-seven patients were treated by schedule B and were observed 12 to 22 months. Of these, 13 (10 percent) showed clinical relapse, 3 (2 percent) serologic relapse, and 2 were probably reinfected. Two hundred and six patients were treated according to schedule C and were observed 3 to 9 months. Of these, 16 (8 percent) showed clinical relapse and 5 (2 percent) serologic relapse.

The authors felt that results obtained by the use of schedule C were superior to those obtained by the use of either of the other plans, and that patients with seronegative primary early syphilis responded more favorably than did those with infections in other stages.

The authors mention the following advantages of this treatment: it can be completed within 8 hours and requires only 48 hours of hospitalization; such laboratory tests as chemical examination of the blood and tests of the liver and kidney functions are unnecessary; the cost is only about $30 per case; and severe complications have not occurred among the patients of the present series.

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Penicillin in the treatment of infections. Chester S. Keefer. 53: 93–107, Apr. 1945.
*Sodium penicillin in the treatment of presumably sulfonamide-resistant female gonorrhea. Paula Horn and H. H. Cowper. 53: 108–112, Apr. 1945.

Sodium penicillin in the treatment of presumably sulfonamide-resistant female gonorrhea.—Horn and Cowper report the results of penicillin therapy in 71 female and 14 male patients with gonorrhea p sumed to be sulfonamide resistant.

Of the 71 female patients, all except had failed to respond to 2 or more cour of sulfathiazole or sulfadiazine. On adm sion to the hospital, routine examinati including urinalysis, smears and cultu were obtained. One course of sulfathiaz was given to most patients, and beginni -3 days after the cessation of sulfonami therapy, slides and cultures were collect daily or thrice weekly for a 2-week peric Patients with positive tests were then giv penicillin.

The average postpenicillin follow-up p riod was 38.3 days, and in no case we less than 4 postpenicillin cultures obtaine the average being 7.7 per patient.

Penicillin was administered intramusc larly in sterile water or saline. In courses the total dose was 100,000 units, 6 courses it was 125,000 units, in 2 cours 150,000 units, and in 11 courses 200,0 units.

Of the 74 courses of penicillin admini tered to 71 female patients, 21.6 perce were presumptive failures. The failur among patients receiving 100,000 units w 21.8 percent. Of the 14 male patients of whom were treated with 100,000 unit the rate of failure was 21.4 percent.

Among women having an infection of t lower genital tract only, the failure ra was 11.6 percent. Among those having a sociated upper genital tract infection, 35 percent failed to respond.

Those patients having an infection of comparatively short duration (31 to days) had only 13.6 percent of failure while those having an infection of a lon duration (over 180 days) had 33.3 perce of failures.

No serious reaction was noted in the courses of penicillin administered.

The authors conclude that early diagnos and early institution of penicillin therap in gonorrhea are of paramount importan in the control of gonorrhea.

West Virginia M. J., Charleston
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The JOURNAL of VENEREAL DISEASE INFORMATION

(*Formerly* VENEREAL DISEASE INFORMATION)

Volume 26 September 1945 Number 9

EDITORIAL 193

ORIGINAL ARTICLES

Syphilis in Inductees: Analysis of 5,000 Cases 194
JACOB ZELLERMAYER, *Captain, M.C.*

The Significance of the First Lapse in Outpatient Venereal Disease Clinics 198
FREDERICK G. GILLICK, M.D., M.P.H.
DOROTHY STUBBS
ROBERT R. SWANK, B.S., P.H.N

A Simple Viewing Device for Reading Test Tube Precipitation Tests 202
HOWARD P. STEIGER, *Passed Assistant Surgeon (R)*
JOHN F. SIMPSON

CURRENT LITERATURE 203

Federal Security Agency

UNITED STATES PUBLIC HEALTH SERVICE

,9

FEDERAL SECURITY AGENCY

UNITED STATES PUBLIC HEALTH SERVICE

THOMAS PARRAN, *Surgeon General*

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Approved by the Director, Bureau of the Budget, as required
by Rule 42, of the Joint Committee

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UNITED STATES GOVERNMENT PRINTING OFFICE, WASHINGTON: 1945

For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D.
Price 10 cents. Subscription price, 75 cents a year

Editorial

The use of mass blood testing among various segments of the population
s a means of finding syphilis is an acceptable procedure in syphilis control. t the same time, however, as knowledge is accumulated of the mechanism blood serologic tests the concept that the positive reaction alone does not stablish the diagnosis of syphilis gains strength. Zellermayer finds that nong 5,000 inductees suspected of having syphilis, 570 (11.4 percent) uld be proved to have been completely free of the disease. Most of these ad been suspected on the basis of a single blood test. In an additional 6 ercent in whom treatment had been instituted, there was reason to suspect n erroneous diagnosis. This latter group, however, must of necessity be nsidered as having been infected. Once treatment is begun the disease ust be considered to exist and treatment must be carried to conclusion. his makes it doubly important that the diagnosis be clearly established efore therapy is started.

It is interesting that in 9 of the 570 cases found not to have syphilis the ispicion of infection was raised by a history of injection therapy. In every istance it turned out to have been some procedure other than antisyphilitic ierapy. This points up the necessity for careful explanation to the patient y the physician of diagnostic and treatment procedures for any condition. t further proves that the history of every patient should be carefully checked efore making a diagnosis of syphilis.

Study of the 5,000 cases reported by Zellermayer confirms the belief that egular and adequate treatment is a potent factor in the cure of the disease. f the whole group, 1,614 were previously unrecognized cases, and even f those who had been treated the majority had not received regular adequate ierapy. It is true that much of our case-holding problem will be solved by ie use of inpatient procedures in the care of syphilis. However, there will emain a minority of patients to whom for various reasons such procedures ill not be applicable.

The second paper in this issue is concerned with some of the factors hich enter into the problem of the lapsed patient. It is brought out that ie habitually absent patient usually lapses for the first time early in the urse of treatment, and, further, that the first few injections are the critical nes. Special effort should be made to keep the patient from lapsing during ie course of these first injections, and expenditures of such effort early in the urse of therapy will reduce the necessity for subsequent case-holding effort.

From the December 1943 to the July 1945 issue of this journal we have ublished a monthly table showing the number of cases of syphilis, gonorrhea id other venereal diseases reported each month to State and Territorial ealth officers. Another table showed cases reported for the larger cities. ith the July issue these tables were temporarily discontinued pending certin revisions. In the current issue publication of the revised table of cases reported to State and Territorial health officers is resumed. Publication the table showing cases reported for the larger cities will also be resume in the near future. It should be emphasized that the revised tables cann be compared with cases reported for preceding years as given in the tabl as hitherto published because of the partial inclusion of military cases i these earlier reports. As revised, the data given are for reported civilia cases only.

—THE EDITO

Syphilis in Inductees

Analysis of 5,000 Cases

Jacob Zellermayer[1]
Captain, Medical Corps, United States Army

When the induction into the Armed Forces of men with venereal disease was started in 1943, facilities were established for the evaluation of these cases. The purpose of this evaluation was to determine the status of the infection, to initiate records and treatment of those men who were acceptable for induction, and to determine the presence of disqualifying conditions caused by the venereal diseases. By far the largest number were cases of syphilis, and the procedure was particularly applicable to this group. The presence of cerebrospinal, cardiovascular, and visceral syphilis was considered to be disqualifying and had to be ruled out. In those cases that were acceptable for induction, sufficient data had to be obtained to determine the status and to plan treatment. As a result, rather detailed information was obtained in a large group of persons with syphilis or with a history suggestive of syphilis. This study represents an analysis of the first 5,000 cases evaluated at one station.

The evaluation procedure was carried through in a period of approximately 3 days and consisted of the following steps.

1. A history was taken with particular stress upon the date of and basis for the diagnosis of syphilis. Needless to say, colloquial terms were used freely in obtaining these facts, in order to avoid any possible misunderstanding as to the information d sired. An attempt was also made to asce tain the amount of previous treatment ar by whom given, as well as whether a spin puncture had been performed and wheth there had been any complications.

2. Routine letters were sent to the ho pital or physician where treatment had bee taken in order to corroborate the diagnos and to obtain information as to the amou and type of previous treatment. The nur ber of replies to these inquiries was surpri ingly large, but too frequently several week elapsed before the information was receive This time element made it difficult to kee an exact count, so that no definite pe centage can be given. Where this corrobo ration was not obtainable, the evaluatio was completed on the basis of the othe available data.

3. Physical examination was directe toward ruling out disqualifying condition In view of the previous examinations at th induction station, it was limited to th testing of the pupillary reflexes and kne jerks, auscultation of the heart and meas urement of blood pressure, and inspectio of the genitals and skin for evidence o present or past lesions suggestive o syphilis.

4. Serologic tests for syphilis were per formed on the day of admission and th day of discharge. Urinalysis was routin A spinal puncture was the last step in th procedure and was omitted only in cases o

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[1] Acting Assistant Surgeon, United States Public Health Service. On leave of absence.

rimary syphilis. The serologic test for 'philis consisted of a Kahn in all cases and Wassermann in those cases where the .ahn was positive. In doubtful cases, aditional tests were done after induction, sually several weeks following the initial :udy. The spinal fluid was examined by ie station hospital laboratory. Cell count, lobulin, Wassermann, and colloidal gold irve were performed on the fluid.

Upon completion of the study, each atient was placed in 1 of 4 groups defined s follows:

1. No disease found. In these cases there 'as no history of syphilis, physical examiation failed to reveal any evidence of resent or past infection, serologic tests of ie blood were repeatedly negative and the pinal fluid was negative.

2. History of syphilis adequately treated; o disease found. The men in this group ad a definite and usually corroborated hisory of the infection and had received 20 or iore arsenical injections. At evaluation ney presented no clinical evidence of active yphilis, were seronegative repeatedly, and ad negative spinal fluid reactions. They vere considered possible "cures."

3. Syphilis or history of syphilis inadeuately treated, present, uncomplicated, not isqualifying. These were the primary, secndary, early, and late latent cases and omprised by far the largest group.

4. Syphilis present, complicated, disualifying. The cases of cerebrospinal, cariovascular, and visceral syphilis were in his group, as well as a few with a history f sensitivity to arsenical drugs and 3 cases f secondary syphilis with positive spinal luid reactions.

In the present study an attempt is made o analyze several of the factors involved n the first 3 groups. The fourth group, onsisting chiefly of cerebrospinal syphilis, vill be the subject of a future study.

Table 1 shows the breakdown of the 5,000 ases into the 4 groups mentioned and into ubgroups corresponding to the diagnosis. \s was to be expected, the largest single ategory is that of early latent syphilis, ince the greatest number of the men were n the early twenties. Of greater interest re some of the other figures: 11.4 percent probably never had syphilis; even among the 10.6 percent considered cured, there was reasonable doubt in a considerable number as to whether a syphilitic infection had ever existed. The same doubt applies to some of the seronegative latent cases. In these, the diagnosis was assumed to be correct on the basis of corroborated history of treatment. The number of cases of cerebrospinal syphilis (12.5 percent) is rather large considering the age of the group and duration of infection, and the number of cardiovascular cases is relatively small. The fact that the group was predominantly white and the ages all under 38 may in part explain this. Also the preinduction examinations of the cardiovascular system may have been more accurate than those of the nervous system, since spinal fluid examinations were not done at that time, consequently more of the cardiovascular cases were found before induction.

TABLE 1.—*Number and percent of cases in each diagnostic group*

Group	Diagnosis	Cases	
		Number	Percent
I	No disease found (not syphilitic)	570	11.40
II	History of syphilis, no disease found (possible cures)	528	10.56
III	Syphilis present, further treatment (observation needed)	3,253	65.06
	a. Primary	62	1.24
	b. Secondary	7	0.14
	c. Early latent	2,442	48.84
	d. Late latent	742	14.84
IV	Syphilis, complicated	[1] 649	12.98
	a. Cerebrospinal	625	12.50
	b. Cardiovascular	22	0.44
	c. Other	11	0.22
	Grand total	5,000	100.00

[1] The occurrence of more than one condition in some patients accounts for discrepancies in totals.

Table 2 lists the patients in whom no evidence of active infection could be found at the time of evaluation. Included are the patients in groups 1 and 2 above, as well as part of those in group 3. Of the whole group, 37.7 percent were found never to have had syphilis, 35.0 had been adequately treated and were possible cures, and 27.3 had been inadequately treated or treated within the previous 6 months and were considered possible cases of latent infection.

TABLE 2.—*Patients with no present evidence of syphilis*

Present status	Number of cases	Percent of group	Percent of total
I Never had syphilis	570	100.0	37.7
Evaluated because of—			
Positive serologic test	454	79.6	30.0
Penile lesion present	91	16.0	6.0
History of injection therapy	9	1.6	0.6
Miscellaneous other reasons	16	2.8	1.1
II Adequately treated, possible "cures"	528	100.0	35.0
Original diagnosis based on—			
Positive serologic tests alone	167	31.6	11.1
Lesions, with or without positive serologic tests	361	68.4	23.9
III Inadequately or recently treated, possibly latent syphilis	412	100.0	27.3
Amount of treatment:			
Less than 20 arsenicals	149	36.2	9.9
20 or more arsenicals	263	63.8	17.4
Grand total	1,510	.....	100.0

In the group finally evaluated as never having had syphilis the reasons for inclusion in the evaluation were manifold, but positive serologic tests alone comprised nearly 80 percent of the total. As a rule these were single tests performed prior to evaluation. The repeatedly negative results found at evaluation included, in addition to the routine test at the beginning and end of the period, one performed several weeks later, and in most instances they were checked by another laboratory (Service Command) also. Other reasons for suspecting syphilis were the presence or history of a penile lesion (16.0 percent), a
history of injection therapy (1.6 percent
and miscellaneous other reasons (2.8 pe
cent) such as a doubtful or positive Ror
berg, the presence or history of skin lesio
or adenitis and familial histories of syphil

The penile lesions were frequently herp
progenitalis, chancroid, and ulcerative bal
nitis or history suggestive of these cond
tions. Some of the scars were definite
indicative of chancroidal or other ulcerati
diseases. As to history of injection the
apy, careful questioning and corroborati
from the source of treatment reveale
widely varying procedures such as vacci
therapy for gonorrhea, treatment for rhe
matism, inoculations of many types, a
postoperative injections.

This group of cases that never had ha
syphilis is an excellent illustration of t
necessity for careful diagnostic work in t
field of syphilotherapy. It constitutes 11
percent of the entire series, and contai
570 men who might well have been starte
on an arduous course of treatment in th
absence of further investigation. It als
raises considerable doubt concerning th
167 men in the "cured" group who had bee
treated on the basis of positive serologi
tests alone and 149 in the latent syphili
group who were clinically and serologicall
negative but had had inadequate treatmen
Many of these may never have had syphilis
but the first 167 had already been subjecte
to 20 or more injections of arsenical drug
and the other 149 must of necessity receiv
further therapy in order to be sure that th
ones actually infected will be protecte
against the development of late syphilis
All of these facts emphasize the need fo
great care in establishing the diagnosis o
syphilis. Careful laboratory confirmatio
of the clinical diagnosis of lesions and mul
tiple serologic tests performed in severa
laboratories are essential. Certainly it i
unwise and unsafe to assume that syphili
is present unless proved otherwise. On th
contrary, the diagnosis must be definitel
established by all possible confirmatory evi
dence before treatment is started.

The 528 cases considered possible cure
constituted 10.56 percent of the total num-
ber evaluated, but as has already bee
pointed out, 167 (31.6 percent) of these

ere originally diagnosed on the basis of rologic tests alone, all too often just one st, so that many of them may never have id syphilis. On the other hand there were 2 men clinically and serologically nega- ve who were classed as latent syphilis ther because they had received inadequate eatment (less than 20 arsenical injections) because they had been receiving treatment within 6 months prior to evaluation. Thus there was a total of 940 men, 18.8 percent of the entire series, who, if their original diagnoses were correct, may have been cured; 84.1 percent of these had had more than 20 arsenical injections.

Table 3 shows the distribution of the possibly cured and latent cases with reference to the amount and regularity of the treat-

ABLE 3.—*Previous treatment received by patients possibly cured and by those having evidence of latent infections*

Present status	Number of arsenical injections	Type of treatment						
		Regular		Irregular		Intensive	None	Total
		Number	Percent	Number	Percent	Number	Number	Number
ssible cures	20-29	63	26.5	149	51.9	......	......	212
	30-39	86	36.1	85	29.6	......	......	171
	40 or more	89	37.4	53	18.5	......	......	142
	Total	238	100.0	287	100.0	3	......	528
atent syphilis	Less than 20	302	54.9	550	54.3	......	......	852
	20-29	167	30.3	288	28.4	......	......	455
	30-39	74	13.5	111	11.0	......	......	185
	40 or more	7	1.3	64	6.3	......	......	71
	Total	550	100.0	1,013	100.0	7	1,614	3,184

ent received. Information as to the mount and regularity of treatment was obined from the history given by the patient r the report from the source of treatment. reatment was considered regular if ourses of 8 or more arsenical injections ere given in planned intervals of 1 week r less without lapse. In other words both e continuous and intermittent type of eatment were considered regular. It can e seen from the table that nearly half of e possibly cured cases had received regur treatment compared with slightly over ne-third of the latent cases. Likewise, ven when those who had received less than 0 arsenical injections are taken out of the atent group the remainder show a much wer average number of injections than do he possible cures. It is apparent that both egularity and amount of treatment are otent factors in bringing about serologic eversals.

It can be seen in table 3 that 1,614 of the atent cases had had no previous treatment. This group constitutes 58.2 percent of the 2,772 seropositive latent cases. In other words, well over half of the men found to have positive blood tests but no other signs of syphilis were previously untreated and unknown cases. This illustrates the value of the serologic survey in finding cases of syphilis, provided caution is used and too much reliance is not placed on the results of a single test.

SUMMARY AND CONCLUSIONS

An analysis of diagnostic studies evaluating the status of suspected infection with syphilis in 5,000 inductees is presented. The purpose of the evaluation and the method employed at one station are outlined.

The analysis revealed that 11.4 percent never had syphilis, 10.56 percent were possibly cured of their infection, 1.24 percent had primary, 0.14 percent secondary, 48.84 percent early latent, 14.84 percent late latent, and 12.98 percent complicated syphilis, chiefly cerebrospinal.

A study was made of the factors of basis for diagnosis, and amount and regularity of treatment in these different groups, with the exception of complicated syphilis which will be the subject of a future study.

In addition to the 11.4 percent who certainly never had had syphilis there was considerable doubt concerning the diagnosis of an additional 6.3 percent, showing the need for careful study of the patient befor beginning syphilis therapy.

The group of probably cured patients ha received more treatment and more regula treatment than those still having evidenc of infection.

Nearly 60 percent of the seropositiv cases in the group were found to be previously untreated and unrecognized infections.

The Significance of the First Lapse in Outpatient Venereal Disease Clinics

Frederick G. Gillick, M.D., M.P.H.[1], **Dorothy Stubbs**[2], and
Robert R. Swank, B.S., P.H.N.[3]

under treatment, so that this breakdown is

It has long been a general impression that syphilis patients on outpatient schedules of treatment who become chronic case-holding problems start lapsing early in the course of their treatment. During a study of lapses in a group of patients with early syphilis it became increasingly apparent that this impression was true and that the tendency could be demonstrated statistically.

With this in mind an analysis was made of the records of 330 clinic patients with early syphilis who were diagnosed and started on outpatient treatment during the period Sept. 1, 1943, through Dec. 31, 1944. These were drawn from the active rolls of 2 of the larger outpatient venereal disease clinics of the District of Columbia Health Department. All had previously untreated primary, secondary, or early latent syphilis. Three schedules of treatment were employed: routine standard therapy with 1 treatment weekly, semiweekly treatments, and 3 treatments a week. In every case the patients selected for study had been on the active rolls of the clinic for a sufficient period of time to have received a minimun of 20 arsenical injections under the respective schedules of treatment: 40 weeks fo the patients on the weekly schedule, 1 weeks for those on the twice weekly schedule, and 10 weeks for those on the 3 time a week routine.

The records of the 330 patients selecte were abstracted. Age, race, sex, diagnosis and the total number of arsenical injection were noted. Each case was assigned to the treatment schedule originally started, irrespective of subsequent changes. The number of days from the first treatment to the first lapse, and the number of treatment given in this period were determined fo each patient. A lapse was defined as a absence from the clinic for more than 10 days for routine treatment, more than 6 days for semiweekly treatment, and more than 4 days for thrice weekly treatment.

Among the patients studied were 114 o the routine standard schedule of weekly treatments, 175 on the semiweekly schedule, and 41 treated 3 times a week. No selection was made with regard to race, sex, o age. Over 90 percent of the patients were Negro. One hundred and forty-six (44.2 percent) had primary and secondary syphilis and 184 (55.8 percent) had early latent infections. Preliminary analysis indicated that there was no appreciable difference between the 2 diagnostic groups with regard to their tendency to lapse or to remain

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t carried through the remainder of the
alysis. The same is not true, however,
age and sex, which must be discussed in
ore detail.

Table 1 shows the age and sex distribu-
n of the intensively treated (2 or 3 in-
ctions a week) and the routinely treated
ses, and the proportion finally receiving
s than 20 and 20 or more injections, re-
rdless of lapses. It is apparent from this
ole that a greater proportion of the
tients 25 years of age and older than of
ose under 25 received at least 20 injec-
ns, and also that more of the female than of the male patients received this amount of therapy. When all ages and both sexes are combined, however, these differences tend to cancel one another, because more of the female patients than of the male patients were in the younger age group. Furthermore, the age and sex composition of the treatment groups did not differ significantly. Therefore, it can be concluded that there was a real difference between the intensive and routine schedules, in that with the former 48 percent of the patients received at least 20 arsenical treatments compared with only 24 percent in the latter.

BLE 1.—*Sex and age groups of patients according to original treatment schedule and tota arsenical injections received*

x and age groups		Intensive			Routine			Total		
		Under 20	20 and over	Total	Under 20	20 and over	Total	Under 20	20 and over	Total
les:										
Under 25 years..	Number	46	23	69	34	7	41	80	30	110
	Percent	67.7	33.3	100.0	82.9	17.1	100.0	72.7	27.3	100.0
25 years and over	Number	31	26	57	23	11	34	54	37	91
	Percent	54.4	45.6	100.0	67.6	32.4	100.0	59.3	40.7	100.0
Total........	Number	77	49	126	57	18	75	134	67	201
	Percent	61.1	38.9	100.0	76.0	24.0	100.0	66.7	33.3	100.0
nales:										
Under 25 years..	Number	30	42	72	27	5	32	57	47	104
	Percent	41.7	58.3	100.0	84.4	15.6	100.0	54.8	45.2	100.0
25 years and over	Number	5	13	18	3	4	7	8	17	25
	Percent	27.8	72.2	100.0	42.9	57.1	100.0	32.0	68 0	100.0
Total........	Number	35	55	90	30	9	39	65	64	129
	Percent	38.9	61.1	100.0	76.9	23.1	100.0	50.4	49.6	100.0
les and females:										
Under 25 years..	Number	76	65	141	61	12	73	137	77	214
	Percent	53.9	46.1	100.0	83.6	16.4	100.0	64.0	36.0	100.0
25 years and over	Number	36	39	75	26	15	41	62	54	116
	Percent	48.0	52.0	100.0	63.4	36.6	100.0	53.4	46.6	100.0
Total........	Number	112	104	216	87	27	114	199	131	330
	Percent	51.9	48.1	100.0	76.3	23.7	100.0	60.3	39.7	100.0

In order to show the relation between the
ne of first lapse and total treatment re-
ived, table 2 and chart I are presented. A
tal of 20 or more injections of arsenical
ug was selected as the minimum criterion
satisfactory treatment. No consideration
uld be given to the number of bismuth in-
ctions because of the variation of this factor in the different treatment schedules. The cases in each of the 3 treatment groups (once a week, twice a week, and 3 times a week) were tabulated according to whether they received as many as 20 arsenical injections and according to the number of days and the number of treatments before the first lapse. These cases were then cumulated

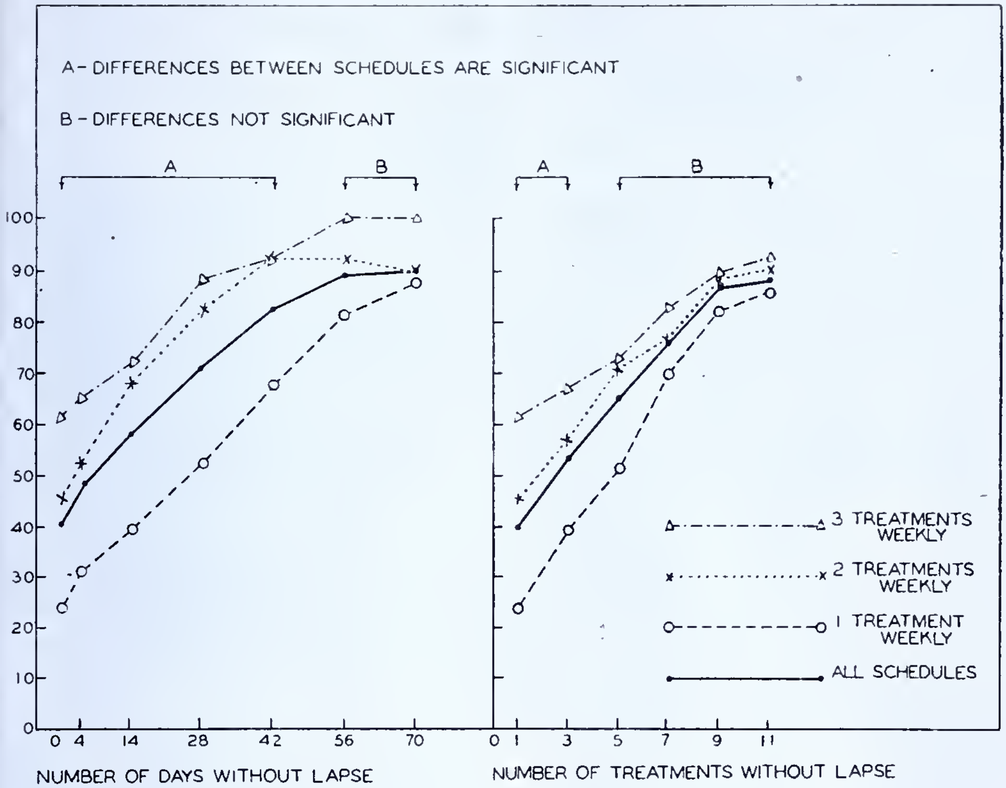
starting with the longest period of time or the greatest number of injections in order to determine how many patients had remained at least the specified number of days or number of injections without lapsing. The results of this process are shown in table 2 and graphically in chart I.

TABLE 2.—*Number and percent of patients receiving 20 or more arsenical injections on treatment schedules, by number of days and number of treatments without lapse*

Days	Number of cases completing at least specified number of days without lapse				Treatments	Number of cases completing at least specified number of treatments without laps			
	Total cases	Eventually received less than 20 As.	Eventually received 20 or more As.			Total cases	Eventually received less than 20 As.	Eventually received 20 or more As	
			Number	Percent				Number	Percent
				Intensive treatment three times a week					
0	41	16	25	61.0	1	41	16	25	61.0
4	37	13	24	64.9	3	36	12	24	66.7
14	28	18	20	71.4	5	29	8	21	72.4
28	17	2	15	88.2	7	23	4	19	82.6
42	12	1	11	91.7	9	18	2	16	88.9
56	8	..	8	100.0	11	14	2	12	85.7
70	3	..	3	100.0					
				Intensive treatment twice a week					
0	175	96	79	45.1	1	175	96	79	45.1
4	146	70	76	52.1	3	126	54	72	57.1
14	91	29	62	68.1	5	85	25	60	70.6
28	56	10	46	82.1	7	67	16	51	76.1
42	38	3	35	92.1	9	49	6	43	87.8
56	25	2	23	92.0	11	37	3	34	91.9
70	19	2	17	89.5					
				Routine treatment once a week					
0	114	87	27	23.7	1	114	87	27	23.7
4	88	61	27	30.7	3	69	42	27	39.1
14	69	42	27	39.1	5	51	25	26	51.0
28	50	24	26	52.0	7	33	10	23	69.7
42	34	11	23	67.6	9	22	4	18	81.8
56	21	4	17	81.0	11	17	2	15	88.2
70	16	2	14	87.5					

It is evident from these data that the more intensive the treatment schedule the greater the chance that the patient will receive at least 20 injections. The differences between the schedules of treatment are significant statistically, and remain so even among patients who have completed 6 weeks of treatment without a lapse. However, when comparison is made according to the number of injections received before the first lapse the differences tend to disappear and are no longer significant among patients who have received as many as 5 injections without lapse. In other words, for patients who have received 5 or more injections without lapse, the chance that they will go on to receive 20 or more injections does not differ in the various schedules and the average for all schedules is a satisfactory estimate for any one of them. Since the differences remain significant until the eighth week when the basis of comparison is the length of time before the first lapse, and by that time the number who have not lapsed is so small that the percentages do not mean much, it is clear that the crucial factor is the number of injections received. The chart indicates that

HART I.—*Relationship between the percent of patients receiving at least 20 arsenical injections and number of days and treatments received without lapse*



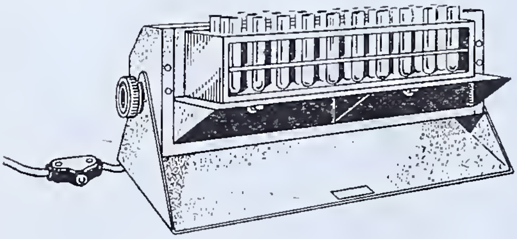
hen as many as 9 injections are given be- ore the first lapse, 85 percent of the atients go on to receive at least 20 injec- ons, and that if 11 injections are given be- ore the first lapse 90 percent will get 20 jections. Even 7 injections without a apse will insure 20 or more arsenical injec- ons in 75 percent of the patients.

These figures demonstrate statistically ne validity of an opinion long held by nany workers in the field of venereal dis- ase control, namely that the patients who apse early in the course of treatment are he most likely to become chronic absen- ees. Patients who can be kept under reatment for 10 or 11 injections without a apse will go on to complete a satisfactory ourse in a proportion comparable to that obtained with hospitalization procedures. On the other hand, those who lapse during the first few injections are unlikely ever to complete treatment and probably should be given inpatient care if possible. Furthermore, since up to the fifth injection there is a significant difference between the routine and the intensive outpatient schemes of treatment with respect to the number of patients who will complete treatment, and since only 25 percent of those on intensive schedules lapse after the first injection as compared with 40 percent of those on routine schedules, it would seem advisable to require 2 or more clinic visits a week for the first few weeks even of patients who are on routine therapy.

A Simple Viewing Device for Reading Test Tube Precipitation Tests

Howard P. Steiger, Passed Assistant Surgeon (R) [1], and
John F. Simpson

The reading of flocculation and precipitation tests is affected by many variable conditions. In order to achieve uniform results with such procedures, as many as possible of the variable factors must be standardized. Therefore a source of light which does not fluctuate and which is equal in intensity on all tubes being read is necessary. This is especially true for reading series of dilutions such as those used in quantitative serologic tests for syphilis or in Widal reactions. Several devices designed for this purpose have been described (*1, 2*) and have succeeded quite well in providing a standard source of light and in eliminating the necessity of removing each test tube from the rack for separate reading. The present note describes an apparatus devised by the authors for the same purpose.



The apparatus consists of a slit lamp constructed entirely of metal except for the 14-inch daylight fluorescent bulb (figure). The base is 15½ inches long and 6 inch wide. The adjustable shelf is 3 inch wide and will with ease accommodate standard 30-tube Kahn rack. The housin can be rotated to the desired viewing pos tion. The width of the light slit is adjus able, and the shelf can be raised or low ered by means of thumb screws so that th slit is in proper position with relation t the tubes.

In order to use the device, a rack contai ing a completed test is placed on the shel The narrow beam of light emanating fro the slit is reflected from the particles in th fluid, making them easily visible. Th reading of the test may be facilitated by hand lens.

The apparatus provides a constant sourc of light the intensity of which is the sam on all tubes in the rack and is relativel independent of external light sources. I permits rapid reading of tests because a entire rack can be placed over the light s that individual tubes do not have to be re moved for reading.

REFERENCES

1. Sell, F.: A viewing device for reading Kah reactions. J. Lab. & Clin. Med., 29: 752 754, 1944.
2. Cares, R.: A Kahn viewing device wit standard illumination for reading tubes i the rack. J. Lab. & Clin. Med., 29: 755 762, 1944.

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[1] U. S. Public Health Service.

Erratum

The article entitled "Analysis of Case-finding Methods in Community Venereal Diseas Control," by Harry Pariser, which appeared in the June, 1945, issue of this journa contained a printing error. In table 5, page 124, in the column headed "Negro," th total infected should read 83.8.

CURRENT LITERATURE

Note: Abstracts of any article listed below are available on request. In addition, abstracts of all articles concerned with venereal diseases or related subjects which have been published in the better known journals both here and abroad during the past 20 years are in the files. These are open to workers in the field. An asterisk (*) before a title indicates that the article is abstracted below.

Am. Heart J., St. Louis

- *Heart disease in the South: 1. A statistical study of 1,045 cardiac deaths. Alice Baker Holoubek. 29: 168–177, Feb. 1945.
- *The incidence of heart disease in Puerto Rico: Statistical analysis of 1,081 cases. Ramon M. Suarez. 29: 339–347, Mar. 1945.

Heart disease in the South: 1. A statistical study of 1,045 cardiac deaths.—The purpose of the study reported in this paper was to determine the etiology of cardiac deaths in the South.

Autopsy records of the Charity Hospital of Louisiana during the period 1935 to 1940 were reviewed, and all deaths due primarily o heart disease were studied and classified tiologically. Since the survey was conined to charity cases, the study covers patients of the lower economic groups only.

Of the 1,045 deaths recorded, 665 (63.6 percent) were those of Negroes, and 380 36.4 percent) white people. Syphilitic ardiovascular disease accounted for 190 18.2 percent) of the 1,045 deaths. Of hese, 163 were among Negroes and 27 mong whites, the ratio being roughly 6 : 1. There were 4 times as many deaths due to yphilitic heart disease among males as mong females, considering both races.

Charts are given showing total incidence f syphilitic heart disease by race and age, nd the incidence of that condition in diferent geographical areas of the United States as shown in 15 studies by various uthors is tabulated.

The incidence of heart disease in Puerto Rico: Statistical analysis of 1,081 ases.—The author reports the results of a tudy of 1,081 cases of heart disease found mong Puerto Ricans of all economic and ocial strata but predominantly among those f the upper intellectual and economic evels. Ninety percent of these were white nd 10 percent Negro; 67 percent were male and 33 percent female.

Findings are compared with those of studies by other authors on heart diseases in Puerto Rico, as well as in Argentina, Mexico, the New England States, and in the States of New York, Virginia, and Louisiana.

In the present study, the incidence of cardio-aortic syphilis among Puerto Ricans was found to be 6.1 percent, a lower rate than that given by certain other authors, whose studies were, however, confined to low social and economic groups.

A bibliography of 19 references is given.

Am. J. Obst. & Gynec., St. Louis

- *Penicillin treatment of sulfonamide-resistant gonococcal infections in the female. Alfred Cohn, Howard C. Taylor, Jr., and Isaak Grunstein. 49: 657–662, May 1945.
- *The transmission of penicillin through the placenta: A preliminary report. Adolph M. Hutter and John Parks. 49: 663–665, May 1945.

Penicillin treatment of sulfonamide-resistant gonococcal infections in the female.—Cohn, Taylor, and Grunstein analyze the results obtained in a study made of 108 hospitalized female patients suffering from gonococcal infections which were treated with varying amounts of penicillin.

At least 2 courses of various sulfonamides had failed to effect a cure in 101 of these females; the other 7 were definitely sensitive to sulfonamide compounds. After 1 course of penicillin, 99 of the 108 patients became bacteriologically negative. The remaining 9 patients became negative after a second course of penicillin.

The minimum time required for therapy was found to be 6 hours. A minimum total dosage of 100,000 O.u., injected intramuscularly in divided doses, proved to be necessary and sufficient for bacteriologic cure, even though smaller doses of penicillin given in a shorter time were adequate in the treatment of some cases.

Within a week following penicillin therapy urethral discharge disappeared, but in the majority of cases the cervical discharge was only slightly less. Acute symptoms and signs of adnexal involvement were noted to subside within 1 to 2 weeks after penicillin treatment. In 3 cases there was an exacerbation of the adnexal involvement immediately following the use of penicillin. One patient developed salpingitis following therapy.

Out of the total of 108 women, 81 were followed up after their discharge from the hospital for an average period of 43.6 days, during which an average of 3.5 examinations were performed. After an average follow-up of 51.7 days, 15 patients were found to be gonococcus positive, although the authors attribute this to reinfections rather than recurrences. Six of this group who were originally sulfonamide resistant responded to a single course of sulfathiazole therapy. No serious toxic symptoms were noted in any patients. The course of pregnancy in 6 patients was unaffected.

The transmission of penicillin through the placenta: A preliminary report.—A study to determine what place penicillin might have in obstetric therapeutics was started by Hutter and Parks in May 1944. In beginning, they attempted to determine whether or not the placenta would offer a barrier to the passage of penicillin from the maternal circulation into the fetal blood supply. Their presupposition was that if penicillin could be detected in the fetal blood, it would be important to determine the amount necessary to give the mother in order to obtain an adequate therapeutic concentration in the fetus.

The authors' procedure was to place amorphous penicillin, as a sodium salt, in solution with normal saline in concentration of 5,000 units per cubic centimeter. They observed labors closely in order to give an intramuscular injection of penicillin to each patient within a period of less than 2 hours before delivery. Penicillin blood levels were obtained, at the time of delivery, from the antecubital vein of the mother and from the umbilical vein of the infant. In a few patients who were not delivered within the first hour after injection, maternal blood levels were obtained 1 hour after administration of the penicillin and at the time of delivery. A composite average of fetal and maternal penicillin blood levels is charted. A complete record of maternal and fetal penicillin blood levels is given.

Since the bacteriostatic level of penicillin varies with different strains of organisms, the test strain used by these authors in their study was Staphylococcus aureus 209, for which the minimum bacteriostatic blood level has been determined to be 0.02 Florey units per cubic centimeter.

The authors conclude that their results confirm the report of Herrell, Nichols, and Heilman, in that 100,000 units of penicillin injected intramuscularly into the pregnant patient at term will result in an adequate bacteriostatic penicillin level in the fetal circulation. They state that they have no data on the passage of penicillin through the placenta of the patient in the first or second trimesters of pregnancy. One patient had positive blood serology, but a normal appearing placenta. Another patient had moderately severe pre-eclamptic toxemia with multiple small placental infarcts.

The fact that penicillin passes from the maternal into the fetal circulation in effective concentrations suggests to the authors the possibility of a wide therapeutic application of a relatively nontoxic agent for the control of penicillin susceptible infections which affect the mother and her unborn infant. If penicillin will eradicate syphilitic infections in the mother and fetus, they believe it should replace the much more toxic arsenical preparations in the treatment of syphilis in pregnancy. They hold that if penicillin is given during labor to patients with known gonococcal infections, it should reduce the incidence of postpartum gonorrheal salpingitis and gonorrheal ophthalmia neonatorum.

AM. J. OPHTH., CINCINNATI

*Penicillin administered locally in gonorrheal ophthalmia: Sensitization reaction. Elmer A. Vorisek and Albert L. Evans. 28: 520–523, May 1945.

Penicillin administered locally in gonorrheal ophthalmia: Sensitization reaction.—Vorisek and Evans report a case of onorrheal ophthalmia in which penicillin dministered locally brought excellent re- ilts but also produced a local sensitivity. ater intramuscular injection of penicillin used an allergic activation of the lids.

The authors' summary follows: An ex- edingly severe case of gonorrheal ophthal- ia responded to local treatment with pen- illin, yielding negative smears and cul- res in less than 24 hours after treatment. Prolonged use of penicillin locally re- lted in a typical drug-sensitization reac- on, such as occurs in individuals sensitive atropine or to the mercurials.

Twenty-three days after local use of the enicillin was discontinued, intramuscular jection of the drug was given for the onorrheal urethritis. This procedure was nmediately followed by a typical drug re- ction in the lids of the involved eyes.

M. J. ROENTGENOL., SPRINGFIELD

*The significance of calcification in the ascending aorta as observed roentgenologically. James Jackman and Mortimer Lubert. 53: 432–438, May 1945.

The significance of calcification in the scending aorta as observed roentgeno- gically.—The purpose of the investiga- on reported in this paper was to substan- ate the opinion that calcification in the as- nding aorta is more indicative of syphi- tic aortitis than against it.

The authors summarize the study as fol- ws: The roentgenologic, pathologic and inical findings of 66 autopsied cases of phlilitic aortitis have been reviewed. inear calcification in the ascending portion the aorta was present on the roentgeno- rams in 22.7 percent. Comparison by entgenologic methods has been made with 2 autopsied cases of severe arteriosclerosis the aorta. Only 3.2 percent in this group ere found to have calcium deposits visible the ascending aorta, on roentgenograms the chest. The clinical findings in 20 rrent cases showing calcium in the as- nding aorta have been presented.

The authors conclude that: (1) Linear lcification in the ascending aorta is a luable roentgenologic sign of syphilitic rtitis. (2) When calcification in this lo- tion is present its reliability may surpass at of negative serologic evidence. (3) Calcification in the ascending aorta is not an early sign of syphilitic aortitis and occurs most often in older, relatively quiescent cases of syphilis.

The bibliography contains 18 references.

ARCH. OPHTH., CHICAGO

Gonorrheal choroiditis treated with penicillin. Herman Krieger Goldberg. 33: 406, May 1945.

BRIT. M. J., LONDON

B. coli vaccine for chronic gonorrheal arthritis. A. H. Bartley. No. 4400: 642, May 5, 1945.

BULL., U. S. ARMY M. DEPT., CARLISLE BARRACKS

Anxiety about serologic tests for syphilis. News and Comment. No. 88: 10, May 1945.

Kahn test reading light. News and Comment. No. 88: 11, May 1945.

CALIFORNIA'S HEALTH, SACRAMENTO

How to report serological tests. 2: 164, May 15, 1945.

CANADIAN M. A. J., TORONTO

Penicillin and venereal diseases. Venereal disease briefs. 52: 508, May 1945.

Venereal disease—the hidden hazard in industry. L. P. Ereaux. 52: 606–609, June 1945.

CONNECTICUT HEALTH BULL., HARTFORD

Venereal disease control in industry. Henry P. Talbot and Ralph F. Sikes. 59: 131–132, June 1945.

Serologists must hold certificates. 59: 140, June 1945.

EPIDEMIOL. INFORM. BULL., UNRRA, WASHINGTON

*Rapid increase of syphilis in Europe. 1: 403–405, June 30, 1945.

Rapid increase of syphilis in Europe.— The remarkable advance in the control of syphilis in a large part of Europe during the inter-war period has been completely wiped out since the beginning of World War II. Since 1941, the spread of syphilis has become increasingly rapid.

Only the Scandinavian countries have an efficient system of syphilis case reporting at the present time. These records are of value for determining the extent of the increase. In Denmark and Norway, the reporting may be considered practically complete, in Sweden and Finland sufficiently good to show the trend. Table 1 shows the trend of syphilis in Denmark, Norway, and Sweden for the period 1932 to 1944, inclusive.

TABLE 1.—*New cases of syphilis reported in Denmark, Norway and Sweden, 1932-44*

Year	Denmark		Norway		Sweden	
	Cases	Index	Cases	Index	Cases	Index
1932–35	831	167	459	141	581	187
1936–39	652	131	400	123	...	...
1940...	498	100	326	100	311	100
1941...	565	113	529	162	287	92
1942...	859	172	1,156	355	441	142
1943...	2,392	480	2,037	625	953	306
1944...	[1] 2,225	765	[1] 852	627	[1] 815	393

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[1] The 1944 data covers 7 months for Denmark, 8 months for Sweden, 5 months for Norway.

It appears from the above table that the steady reduction of syphilis cases continued in Denmark and Norway up to 1940, the rise beginning the following year and becoming greatly accentuated in 1942 and 1943. During 1943, there were 4.8 times as many new syphilis cases in Denmark as in 1940, in Norway 6.25 times as many. In Denmark, the rise continued in 1944, while in Norway the level of 1943 remained unchanged during the first 5 months of 1944. Assuming that the incidence would be the same during the second half of the year, compared with 1940, there is seen an eightfold increase in Denmark, and a sixfold increase in Norway. The increase was greatest in Norway up to 1942, but shows signs now of letting up, while in Denmark it has become accelerated. In Sweden, the incidence of syphilis did not begin to rise until 1942, but the increase has become accelerated since then.

In 1943, the incidence of new syphilis cases was 68 per 100,000 inhabitants in Norway and 61 in Denmark. Adjusted as for a year, the rate was 97 per 100,000 in Denmark for the first half of 1944. In 1920, 4,329 syphilis cases were reported in Denmark. The reduction from 1920 to 1940 was 88.5 percent. In less than 4 years, this gain has been completely wiped out.

During 10 months up to April 1944, 4,111 new cases of syphilis were reported in Finland, which would give 4,900 cases for a year. Statistics of syphilis cases are not available here for later years than 1934, when 2,056 cases were notified. The reported incidence is 132 per 100,000 population. Data for the first quarter of 1945 did not show further increase.

The movement of syphilis in the capital cities of these countries shows similar trends, except that in Copenhagen the increase began later than in the rest of the country, and that in Stockholm it was somewhat greater than in the remainder of Sweden.

TABLE 2.—*New syphilis cases reported in Scandinavian capitals, 1936-44*

Year	Copenhagen	Oslo	Stockholm	Helsinki
1936–39...	275	124	88	323
1940......	292	96	103	442
1941......	247	243	113	783
1942......	346	427	158	[2] 583
1943......	1,283	629	402	...
1944......	[1] 1,057	[1] 296	[2] 309	...

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[1] Eight months. [2] Seven months.

Although the actual population of these cities is somewhat uncertain at present, the rate of incidence in 1943 would be about 170 per 100,000 for Copenhagen, 210 for Oslo, and 70 for Stockholm. The 1942 rate for Helsinki should be around 380 per 100,000 inhabitants.

A similar evolution is expected throughout Europe. New civilian cases reported in Germany (where the notification was defective) increased from 23 per 100,000 population in 1938 to 43 in 1940. Deaths from congenital syphilis in large German cities increased 73 percent from 1941 to 1942. No data are available for later years.

Syphilis was made notifiable in Belgium from the beginning of 1942, when 1,796 new cases were reported. There were 2,538 cases in 1943 and 1,526 during the first half of 1944. The reporting is incomplete but it is significant that the figures show a 70 percent increase from 1942 to 1944. Deaths from congenital syphilis increased from 220 in 1940 to 403 in 1941.

In France, notification of syphilis cases was introduced in July 1943, but no data are available. Records of dispensaries in various cities indicate that the new cases seen there almost doubled from 1941 to 1942, and again more than doubled from 1942 to 1943. Unofficial reports from Italy give a marked increase of syphilis.

The problem of the control of syphilis in Europe is urgent. The longer the period of disorganization the greater will be the read and the more difficult it will be once ore to get the sources of infection under ntrol.

AWAII M. J., HONOLULU

Leprosy as seen at Carville. Editorial. 4: 250–251, May–June 1945.

EALTH BULL., (VIRGINIA), RICHMOND

Speaking of syphilis and the baby, the commissioner says: 9: 3, May 1945.

EALTH NEWS, ALBANY

Personal liberty and venereal disease. James H. Lade. 22: 85–86, May 28, 1945.

Governmental action for the health protection of migratory farm laborers. 22: 89–90, June 4, 1945.

LINOIS HEALTH MESSENGER, SPRINGFIELD

Women's role in the control of veuereal diseases. Percy S. Pelouze. 17: 37–38, May 15, 1945.

LINOIS M. J., CHICAGO

Gonorrheal ophtbalmia neonatorum: A case report. Albert A. Baraff. 87: 249–250, May 1945.

DIAN J. VEN. DIS., BOMBAY

Sulphathiazole — cibazol — in the treatment of gonorrbea. V. Govindan Nair. 11: 1–6, Jan.–Mar. 1945.

Modern treatment of syphilis. K. D. Lahiri. 11: 6–7, Jan.–Mar. 1945.

A. M. A., CHICAGO

*Venereal disease: breaking of quarantine as a punisbable offense. Bureau of legal medicine and legislation. 128: 153, May 12, 1945.

Treatment of ambulatory patients witb penicillin sodium: Preliminary studies of fusospirochetosis. William F. Pearce and John B. McDonald. 128: 342–344, June 2, 1945.

*Single injection treatment of gonorrbea witb penicillin beeswax-peanut oil: Results in 175 cases. Monroe J. Romansky, Robert J. Murphy and George E. Rittman. 128: 404-407, June 9, 1945.

*Experiments in the treatment of dementia paralytica with penicillin. Clarence A. Neymann, Gert Heilbrunn and G. P. Youmans. 128: 433-434, June 9, 1945.

*One dose penicillin treatment of chronic gonorrheal vaginitis in children. Wallace Sako, Ross Tilbury and Jesse Colley. 128: 508–509, June 16, 1945.

Venereal disease: breaking of quar- tine as a punishable offense—One who eaks a lawful quarantine in the State Tennessee is subject to punishment, ac- rding to a decision of the Supreme urt in the case of Kennedy v. Head, eriff, 185 S.W. (2d) 530 (Tenn., 1945).

The relator, having been found to be infected with venereal disease, was committed to "communicable disease isolation quarters." She escaped, was apprehended and fined $25 for breaking quarantine and was committed to jail until payment of the fine was made. She filed a petition for habeas corpus on the ground that no law in Tennessee provided for fine and imprisonment as a penalty for leaving or escaping from quarantine. The trial judge ordered her discharge from jail but remanded her to the communicable disease isolation quarters. The sheriff, the custodian of the jail, appealed to the Supreme Court of Tennessee.

The abstract of the case quotes the statutes, giving the numbers of the sections of the Tennessee code which impose a quarantine upon persons infected with communicable diseases, as well as those which define the duties of the health officers in enforcing such quarantine and those which provide penalties for all violators of such measures.

Single injection treatment of gonorrhea with penicillin beeswax-peanut oil: Results in 175 cases—Romansky, Murphy, and Rittman report the results obtained in the treatment of 175 unselected cases of gonorrhea in males by a single injection of calcium penicillin in beeswax-peanut oil.

The method of preparing and mechanically blending the solution is described.

All the patients gave positive smears and cultures for gonococci prior to the institution of therapy.

A single injection of penicillin was the only treatment, local or systemic, given any of these patients. Group 1, consisting of 100 patients, received 100,000 units, and group 2, numbering 75 patients, was given 150,000 units. Of the patients in group 1, 76 were white and 24 Negro, 71 were previously untreated, and 29 were sulfonamide resistant. Of those in group 2, 54 were white and 21 Negro, 59 were previously untreated, and 16 were sulfonamide resistant.

All patients were confined to the hospital during treatment and during the follow-up period of 2 weeks. Patients were inspected daily, and prostatic smears and cultures were done 2, 4, and 7 days after treatment. In addition, smears and cultures were taken hourly from the third through the seventh hour after the injection of penicillin.

The time interval after treatment at which each of the following observations in each patient in both group 1 and group 2 was noted is tabulated: (1) change from purulent to mucoid urethral discharge; (2) cessation of mucoid urethral discharge; (3) appearance of bacteriologic negativity.

The authors' summary follows:

There were no failures among 75 patients receiving a single injection of 150,000 units of penicillin. Ninety-three of the 100 patients who received a single injection of 100,000 units were cured. The remaining 7 who received 100,000 units were failures and responded to a second single injection of 150,000 units.

A single injection of 100,000 to 150,000 units of calcium penicillin in beeswax-peanut oil will produce and maintain assayable levels of penicillin in the blood for 7½ to 10 hours, with excretion of penicillin continuing in the urine for a period of 24 to 32 hours.

The use of this mixture has produced no abnormal reactions, either locally or constitutionally.

Experiments in the treatment of dementia paralytica with penicillin—The authors report experiments in the penicillin therapy of late syphilis of the nervous system. Five cases are presented, the mode of treatment and the dosage is discussed, and the clinical results are reported.

Patients with chronic dementia paralytica, all of whom had shown mental symptoms for 1 year or more, were chosen for the treatment.

Eight different modes of treatment were used: (1) intramuscular, (2) intravenous, (3) intravenous with sodium dehydrocholate, (4) intravenous with fever, (5) intracisternal alone, (6) intracisternal and intramuscular, (7) intracisternal plus artificial fever plus intravenous, and (8) intracisternal plus intramuscular plus phenarsone sulfoxylate.

Penicillin was given in amounts varying from 3,100,000 Oxford units intramuscularly to 30,000 units by the intracisterna route.

The authors have not yet arrived at definite conclusions but they make the following statements: (1) The intravenou and intramuscular injection of penicilli is ineffective because the hematoencephali barrier cannot be breached; (2) the intracisternal route is dangerous if more tha 30,000 units are injected; (3) the dail injection of this dose prolonged for mor than 5 days is also hazardous; (4) th chronic pachymeningitis and leptomeningitis are probably favorably influenced b the drug; (5) the syphilitic involvemen of the parenchyma in the depths of th cortex probably remains unchanged.

One dose penicillin treatment c chronic gonorrheal vaginitis in chi dren—The authors describe their exper ence with a one-dose penicillin treatme of chronic gonorrheal vaginitis in 16 chi dren.

Data concerning each patient, the trea ment received, and the results are tabulated.

Diagnoses were established by smea only if the case was clear-cut and gran negative intracellular organisms wei found in pus cells. In all other instance diagnosis was made both by smear an by culture.

All but 3 of the patients had receive previous sulfonamide and/or estroge therapy for varying periods. A minimu of 1 week intervened between the admini tration of such treatment and that of pen cillin. The dose given was 100,000 uni in saline solution. No additional therap local or systemic, was applied. Ten the patients were hospitalized; the remai ing 6 were ambulatory.

Smears and cultures were taken ever other day for the first week and week thereafter. The time of observation r ported varied from 2 weeks to 2 month

Clinical and bacteriologic cure was e fected in 15 cases within 3 days, and most cases within 2 days. The one remai ing patient in whom treatment failed r sponded to 8 doses of penicillin of 10,00 units each, given at 3-hour intervals. N symptoms of toxicity were observed. The mbulatory patients responded as well as hose who were hospitalized.

It is concluded that penicillin is the rug of choice for the treatment of chronic onorrheal vaginitis in children, and that single intramuscular injection of 100,00 units is adequate in most cases.

. LAB. & CLIN. MED., ST. LOUIS

*A rapid presumptive complement fixation test for syphilis. Max Shaweker. 30: 467-469, May 1945.

A rapid presumptive complement fixaion test for syphilis—The author decribes a rapid presumptive complement fixtion test for syphilis, useful in weeding out ossible cases of syphilis in physical fitness roups, in pretransfusion donor testing, nd in similar situations where any rapid resumptive test is needed.

The reaction depends on the native comlement and the native hemolysin against uinea pig erythrocytes present in the exmined blood. In case either or both of iese is weak or absent, as is occasionally ie case, the test will yield a false posive result. However, since the test is not esigned for the purpose of diagnosis, an ccasional false positive reaction is inconequential.

The process has been used in testing lood from 724 patients with various diagoses, including many tropical diseases, and each instance, the presumptive test was ontrolled by a standard Kahn and a quantative Kolmer test. A brief report of the esults is given.

According to the author, the test is a mple one, requiring very little equipent not usually found at medical stations. is not intended to replace the standard olmer, Kline, Hinton, Eagle, or Kahn sts and should be checked by one or ore of those procedures as soon as praccable.

M. SOC., NEW JERSEY

* State of New Jersey Department of Health. State Activities. 42: 114-115, Apr. 1945.

State of New Jersey Department of ealth. State Activities.—The New Jery State Department of Health provides nicillin and/or hospitalization for the folwing types of patients: (1) primary philis, (2) secondary syphilis, (3) latent syphilis definitely of less than 1 year's duration, (4) congenital syphilis under 1 year of age, (5) gonorrhea in patients who (a) are resistant to at least 20 gm. of sulfonamide, or (b) are intolerant to sulfonamide, or (c) have serious, acute complications of the disease (epididymitis, ophthalmia, acute salpingitis, acute arthritis).

Penicillin is also provided for ambulatory treatment of the above types of gonorrhea in clinics and physicians' offices.

Certification must be made that the patient either cannot afford to pay for treatment, or is under isolation imposed by the health officer under authority of law.

Application blanks and recommended schedules of treatment are available at most hospitals or from the State Department of Health.

J. SOCIAL HYG., NEW YORK

A year of great progress: Report on the work of the American Social Hygiene Association, 1944. Walter Clarke. 31: 164–183, Mar. 1945.

J. SOUTH CAROLINA M. A., FLORENCE

The history of urology in South Carolina. James J. Ravenel. 41: 34–35, Feb. 1945.

J. UROL., BALTIMORE

*The use of penicillin in the treatment of urogenital infections of the urogenital tract. A clinical study of 509 gonococcal and 26 nongonococcal infections of the urogenital tract. Lloyd R. Reynolds and Henry M. Weyrauch. 53: 614–629, Apr. 1945.

Report of the use of penicillin in sulfonamide resistant gonorrhea in the male. Samuel L. Raines, George S. Barrett and Jesse M. Galt. 53: 630–633, Apr. 1945.

Penicillin treatment of sulfonamide-resistant gonorrhea. Lawrence H. Doolittle and Henry B. Marshall. 53: 634–637, Apr. 1945.

The use of penicillin in the treatment of urogenital infections of the urogenital tract—Penicillin was used by the authors in the treatment of 535 cases of infection of the male urogenital tract, 509 being gonococcal and 26 nongonococcal in origin. At first, the drug was employed only in those patients with gonococcal infection resistant to sulfonamide drugs, but when more adequate supplies became available, penicillin was used for previously untreated gonococcal infections as well as for a limited number of nongonococcal urogenital infections. Of interest is the successful treatment in the various types of gonococcal infections as compared to the discouraging results in treating the nongonococcal infections. Only a few of these were satisfactory.

A clinical study was made of the 509 gonococcal and 26 nongonococcal infections of the urogenital tract treated with penicillin. The drug was given intramuscularly in doses of 10,000 units every 3 hours; initial courses of 80,000 units or more produced a rate of cure exceeding 98 percent in the gonococcal group, regardless of the extent of the urogenital lesion or its chronicity. The authors recommend 100,000 units in the treatment of uncomplicated gonococcal infections and 160,000 units for those with severe complications. In their experience, the administration of 100,000 units in 5 doses of 20,000 units did not yield as satisfactory results as did the more prolonged schedule. Of 21 initial failures in the gonococcal group, 20 responded favorably to a second course, while the 1 remaining patient required a third course to effect a cure. No patients were found to be penicillin-fast.

Although in 5 cases of arthritis the urogenital focus yielded promptly to penicillin therapy, there was improvement of the joint in only 1 instance.

In a summary the authors list the advantages which penicillin bears over the sulfonamides, as follows:

Its action is more rapid.

Its action is more uniformly successful, not only in simple urethritis but also in parenchymatous lesions, blindly ending accessory urethral channels and small periurethral abscesses which respond poorly, if at all, to sulfonamides.

Penicillin is as effective in the chronic lesions as in the acute processes, another point of superiority over the sulfonamides.

Penicillin is completely nontoxic in doses far exceeding those required for therapeutic purposes.

Penicillin used in the treatment of nongonococcal urogenital infections was less impressive. It proved to be useless against the colon bacillus which accounts for such a large proportion of urogenital infections. The widest application of it, is in the coccal infections, especially those of the kidney and perinephric space. The author conclude that it may prove invaluable i these cases, but suggest further investigation to determine the most satisfactor dosages in coccal infections of the urogenital tract.

LANCET, LONDON

*Local action of penicillin and sulphamezathir and a penicillin-sulphamezathine mixture o rabbit brain. Dorothy S. Russell and Dian J. K. Beck. 1: 497–498, Apr. 21, 1945.

Local action of penicillin and sulfamezathine and a pencillin-sulfamezathin mixture on rabbit brain—The author report the results of the local applicatio of penicillin, sulfamezathine, and of a pen cillin-sulfamezathine mixture on the brai of rabbits. In the first experiment, sodiu penicillin was used, and in the last, ca cium penicillin.

The results of macroscopic and microscopic examinations are given.

The penicillin-sulfamezathine was ap parently less injurious than penicillin alon

It is concluded that concentrated pen cillin alone cannot be recommended for local application to the brain and that will be necessary to reassess the histologi effects of penicillin upon the tissue whe it is obtainable in pure form.

M. ANN. DISTRICT OF COLUMBIA, WASHINGTON

Penicillin therapy in ambulatory gonorrhea p tients. George W. Creswell and Lawren E. Putnam. 14: 205, 237, May 1945.

Venereal disease prophylaxis. Norvell Be 14: 203-204, May 1945.

M. J. AUSTRALIA, SYDNEY

The intensive treatment of syphilis and observ tions on serological reactions. Neil W. Fra cis and James S. Wannan. 1: 189–195, Fe 24, 1945.

Fallacies in serological tests for syphilis. Cu rent Comment. 1: 280–281, Mar. 17, 194

*The influence of malaria on the Kline a complement fixation (Wassermann) tests f syphilis. C. B. Cox and M. J. Durant. 320–325, Mar. 31, 1945.

The influence of malaria on the Kli and complement fixation (Wasserman tests for syphilis—Cox and Durant repo observations based on reactions to Kli and Wassermann tests for syphilis ca ried out on 175 specimens of serum fro nonsyphilitic patients having acute malar nd 140 specimens of serum from non-yphilitic convalescent malaria patients.

The results of the tests in the 2 groups f serums are shown in tables 1 and 2, nd in table 3, the percentages of negaive, positive, and doubtful results in the groups are compared. A study of acute ases was made to determine whether emperature had any bearing on the freuency of positive reactions. Table 4 shows hat no such relationship was apparent. n table 5 are set out the types of rections found in the 83 cases investigated uring both the acute and the convalescent tages.

The authors' summary of their findings ollows:

A proportion of "false positive" results as obtained with each test in both series.

In acute malaria the observed positive eactions were generally weak, and only ne specimen of serum reacted similarly to oth tests. The complement fixation test roduced a relatively high percentage of nticomplementary reactions.

During convalescence from malaria the line test produced a slightly higher proortion of "false positive" results than in he acute stage, whereas the reverse was he case with the complement fixation test, nd anticomplementary reactions were also ewer.

Correspondence in serologic reactions vas not seen with serum tested during oth the acute and the convalescent stages, nd the conclusion is drawn that little risk f branding a malaria patient as syphilic should occur if repeated examinations f his serum are made at intervals, both flocculation test and a complement fixaion test being employed.

No relationship between the occurrence f "false positive" results and the number f relapses was found, and in acute malaria here appeared to be no relationship beween the patients' temperatures and "false ositive" results.

We have been unable to differentiate e "false positive" reaction in malaria rom the specific reaction in syphilis by eans of the erythrocyte lipoid extract decribed by Fischer and Günsberger.

M. REC., NEW YORK
- Penicillin: demonstration of its value as a chemotherapeutic agent. Howard W. Florey and E. Chain. 158: 217–219, Apr. 1945.

MARYLAND HEALTH BULL., BALTIMORE
- Maryland's health record for the first quarter of 1945. 17: 21, May 1945.

NEW ORLEANS M. & S. J., NEW ORLEANS
- The health department of the future: A discussion of some problems. J. C. Geiger. 97: 479–495, May 1945.

NEW YORK STATE J. MED., NEW YORK
- Your assistance is imperative. Editorial. 45: 1081–1082, May 15, 1945.
- *An outbreak of early syphilis in western New York State. Berwyn F. Mattison and Earle H. Harris. 45: 1105–1106, May 15, 1945.

An outbreak of early syphilis in western New York State—This story of a small outbreak of early syphilis is told as proof of the value of intensive contact investigation.

Three young men sought treatment from private physicians because of genital lesions. All were found to have early syphilis. Two other early cases were found through preemployment serologic tests. Of 25 persons named as contacts in the course of the resulting investigations, 23 were located and brought under the care of a physician. Of these, 19 were found to be infected, and all infections but 1 were of recent origin.

Of the patients diagnosed, only about two-thirds were prompted to see a doctor because of symptoms, one-third because of the urging of an epidemiologist, and 2 were picked up through routine industrial examinations. Nine of the 10 male patients had either genital or skin lesions, but only 5 of the 9 women had any such history. None of the latter had recognized genital lesions, but merely secondary rashes. Eight of the 19 persons might have failed to see a physician except for the contact investigations and the routine preemployment examinations.

Prompt reporting by private physicians of all cases, including isolated ones in patients not known to be promiscuous, and intensive epidemiologic investigation can be expected to bring to treatment many persons with early infectious syphilis who would otherwise go untreated and would continue to spread infection.

NORTHWEST MED., SEATTLE
Rapid treatment for venereal disease. State department of health. 44: 165, May 1945.

PUB. HEALTH, LONDON
Penicillin. A. D. MacDonald. 58: 79–81, Apr. 1945.

QUART. BULL., NEW ORLEANS
Morbidity report by disease, age, sex and color and urban-rural residence for the quarter ending Dec. 31, 1944. 36: 10, Mar. 1945.
Vital statistics. Division of laboratories. Specimens examined, Oct., Nov., and Dec. 1944. 36: 17, Mar. 1945.

SCIENCE, LANCASTER
*Glucuronic acid as a measure of the absorption of penicillin. D. Perlstein, H. E. Wright, A. J. Liebmann and I. Dorrell. 101: 562–563, June 1, 1945.

Glucuronic acid as a measure of the absorption of penicillin—The purpose of the investigation reported in this paper was to determine whether or not a conjugation occurs between penicillin and glucuronic acid in the body, and if so, whether the determination of this acid in urine may be used as a measure of the absorption of penicillin.

Rabbits were treated with penicillin sodium for 25 days, and glucuronic acid and organic sulfate determinations were made daily. The results are shown by means of a chart.

A marked increase in the glucuronic acid content of the urine was noted, and it is concluded that a quantitative determination of glucuronic acid in urine may be used to detect the presence and the extent of the absorption of penicillin. The authors suggest that the increased acid in the urine may be due to impurities in the drug rather than to the drug itself. Experiments will be continued with more highly purified penicillin.

SEMANA MÉD., BUENOS AIRES
*Sulfonamide in therapy of trichomoniasis vaginalis. A. Alexander. 52: 248, Feb. 1, 1945.

SOUTH AFRICAN M. J., CAPE TOWN
Penicillin: Its present status and modern use. P. J. Kloppers. 19: 70–72, 86–90, Mar. 10, 24, 1945.

SOUTH. M.J., BIRMINGHAM
*The treatment of acute gonococcal pelvic inflammatory disease in the female with penicillin. Laman A. Gray. 38: 405-411, June 1945.

The treatment of acute gonococcal pelvic inflammatory disease in the female with penicillin—Detailed gynecologic findings in 13 female patients following penicillin treatment for acute gonococcal pelvic inflammations are reported in this paper.

The diagnoses were verified by smears and cultures.

Intramuscular injections of 20,000 to 25,000 units of penicillin in saline were given at 3-hour intervals with a total dose of 400,000 units.

All patients were bacteriologically cured, as shown by repeated smears and cultures. The intervals at which these tests were made in each case are given. In 1 case a single positive smear and culture were obtained 24 hours after treatment was begun and after the patient had received 200,000 units, but subsequent tests were negative.

The symptoms of acute salpingitis and peritonitis showed little or no improvement in 24 hours but marked improvement within 48 hours.

Cervical discharge changed from the profuse yellow character after 3 to 6 days to a white, mucoid type and decreased in amount.

The inflammation of acute salpingitis usually progressed for 7 to 10 days after treatment with penicillin and after the patients apparently had been freed of the gonococcus. Tubo-ovarian inflammatory masses and pelvic induration frequently appeared or progressed. Subsequently there were improvement and regression Residual damage was found in all cases in this series, as adherent ovaries or chronic tubo-ovarian inflammatory masses. Such damage resulted regardless of whether or not palpable masses and induration were present before treatment.

U. S. NAV. M. BULL., WASHINGTON
Gonorrheal ophthalmia: Treatment with intra-ocular penicillin. Report of a case. Charle A. Seelig. 44: 389-390, Feb. 1945.

UROL. & CUTAN. REV., WEST PALM BEAC
Important but neglected aspects of the syphili problem. Nathan Smith Davis, III. 49: 1–
Jan. 1945.

Personality factors in the psychoses of general paresis. Lawrence F. Woolley. 49: 3–6, Jan. 1945.

Chorea syphilitica: Report of two cases. George D. Weickhardt. 49: 6–11, Jan. 1945.

Manifestations of bone syphilis. George G. Bailey. 49: 11–12, Jan. 1945.

Syphilis of the anorectum. Harry E. Bacon and Orville C. Gass. 49: 12–16, Jan. 1945.

A case of extensive ulcerating syphiloderm. Paul Hymphrey and John R. Brayton. 49: 16–18, Jan. 1945.

Rectal gummas: Their diagnoses and treatment. Edward G. Martin. 49: 18–19 Jan. 1945.

The role of syphilis in stricture of the rectum. Frank C. Yeomans. 49: 19–20, Jan. 1945.

Proctologic aspects of syphilis. Herbert I. Kallet. 49: 20–21, Jan. 1945.

The frequency of syphilis of bones and joints. Joseph Buchman. 49: 22–26, Jan. 1945.

Syphilitic heart disease—a statistical analysis of 115 cases. David N. Kremer. 49: 26–29, Jan. 1945.

Syphilis of bone. H. Leslie Wenger. 49: 29–35, Jan. 1945.

Subacute bacterial endocarditis complicating luetic aortic disease, treated with penicillin. Solomon Krell. 49: 35–36, Jan. 1945.

Iatrogeny in syphilis. Leon Freedom. 49: 37–40, Jan. 1945.

Electroshock in therapeutically refractory general paresis. Thomas J. Heldt and Nicholas P. Dallis. 49: 40-42, Jan. 1945.

Congenital syphilitic heart disease with report of a case. Lawrence S. Ward and Morris Sulman. 49: 42–46, Jan. 1945.

Progress in treatment of early syphilis: A review of literature and evaluation of method. Budd C. Corbus, Jr., and Budd C. Corbus, Sr. 49: 46–48, Jan. 1945.

Cardiovascular syphilis—its diagnosis and treatment. John W. Martin. 49: 49–52, Jan. 1945.

Carcinomatous changes in luetic gumma of glabrous skin. Cleveland J. White. 49: 52–53, Jan. 1945.

Diagnostic criterions for neurosyphilis. Andrew L. Skoog. 49: 53–57, Jan. 1945.

Epidermolysis bullosa. Andrew G. Frank, M. I. Jeff Davis and William L. Dobes. 49: 57–65, Jan. 1945.

Syphilis, poverty and nutrition. The Tripod. 49: 66, Jan. 1945.

Meningovascular neurosyphilis: Course and treatment as illustrated by three cases. Augustus S. Rose and Curtis Prout. 49: 76–82, Feb. 1945.

The incidence of late syphilis in diagnosis. David M. Baltzan. 49: 82–85, Feb. 1945.

The value of separate clinics for cardiovascular syphilis. Clifton B. Leech. 49: 87–89, Feb. 1945.

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WEST VIRGINIA M. J., CHARLESTON

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Cases of Syphilis and Gonorrhea reported for the First Time in States, Territories an Possessions for the First 5 Months of 1945

Area	Syphilis										Gonorrhea	
	Total†		Primary and secondary		Early latent		Late and late latent		Congenital			
	May	Jan.-May	May	Jan.-May	May	Jan.-May	May	Jan.-May	May	Jan.-May	May	Jan.-May
Alabama	910	4,267	131	588	177	936	277	999	10	123	406	2,545
Arizona	127	682	28	193	41	177	51	271	7	41	116	498
Arkansas	1,413	7,554	409	2,264	508	2,592	400	2,221	67	264	738	3,382
California	2,705	13,734	446	2,288	598	3,652	1,515	6,619	78	346	2,482	10,994
Colorado	253	1,104	87	282	54	281	103	502	9	39	212	908
Connecticut	211	929	23	124	25	351	121	307	3	25	114	618
Delaware	31	176	10	53	8	56	10	52	2	12	12	61
Dist. of Col.	350	1,624	74	349	111	487	144	688	14	48	674	2,441
Florida	1,452	6,860	170	1,103	636	2,814	492	2,692	36	172	1,360	5,465
Georgia	1,266	4,681	317	1,246	503	1,801	401	1,472	43	149	803	3,698
Idaho	70	281	13	49	14	69	29	128	5	14	75	192
Illinois	1,899	9,547	287	1,601	464	2,327	1,099	5,344	49	275	1,683	8,797
Indiana	584	2,894	106	507	86	379	201	997	17	69	310	973
Iowa	100	572	21	123	24	173	40	218	2	24	195	966
Kansas	166	1,043	32	201	36	223	95	577	3	42	153	730
Kentucky	451	2,064	123	618	130	499	115	634	20	86	520	2,335
Louisiana	963	4,681	202	1,033	273	1,261	244	1,099	31	316	1,814	4,146
Maine	78	313	15	57	15	57	37	144	4	24	101	420
Maryland	1,435	4,926	143	706	280	1,022	412	1,410	17	104	604	2,110
Mass.	373	1,675	67	331	(♠)	(♠)	283	1,252	23	92	357	1,514
Michigan	1,505	7,010	260	1,398	478	2,090	546	2,541	30	142	979	4,554
Minnesota	112	540	17	89	23	88	66	315	1	17	178	857
Mississippi	2,133	8,626	600	2,712	782	2,976	654	2,497	97	371	2,637	12,491
Missouri	726	3,847	137	884	244	1,188	282	1,497	31	151	605	2,854
Montana	41	209	6	39	3	16	6	53	8	13	21	112
Nebraska‡	......	......	......	......	......	......	......	......	......	......	......	......
Nevada	38	157	16	33	1	6	11	62	1	4	54	296
New Hamp.	41	178	6	24	6	32	24	105	3	11	17	115
New Jersey	707	3,371	80	486	195	907	387	1,827	34	122	435	1,795
New Mexico	206	879	31	161	37	274	132	381	6	63	152	657
New York	2,990	13,529	586	2,751	704	2,995	1,617	7,345	78	368	§1,503	§6,648
No. Carolina	705	3,491	242	1,252	290	1,233	139	819	34	144	720	3,486
No. Dakota	33	98	4	17	10	17	11	41	2	5	36	155
Ohio	1,887	8,189	370	1,823	520	2,242	875	3,801	74	253	467	2,224
Oklahoma	477	2,951	60	518	133	890	138	878	24	120	750	4,306
Oregon	136	705	37	177	18	98	75	392	3	22	151	980
Pennsylvania	971	4,514	147	781	389	1,783	361	1,530	55	212	▲179	▲771
Rhode Island	93	393	23	75	6	40	53	221	1	13	28	214
So. Carolina	659	3,149	204	1,011	219	945	177	931	52	170	514	2,769
So. Dakota	39	197	9	42	6	49	19	92	5	12	44	187
Tennessee	930	4,933	162	998	372	2,017	369	1,753	21	149	1,170	5,766
Texas	1,161	6,013	274	1,604	712	2,659	116	1,259	45	282	1,413	7,034
Utah	64	200	13	40	13	58	36	102	2	7	62	232
Vermont	11	73	0	9	4	18	6	25	1	8	21	118
Virginia	777	4,420	240	1,340	314	1,709	194	1,136	21	199	453	2,681
Washington	243	1,452	47	304	79	386	95	626	3	37	377	2,008
W. Virginia	261	1,493	126	716	63	370	63	362	7	42	319	1,774
Wisconsin	238	701	32	128	0	3	203	562	3	8	101	42
Wyoming	20	185	6	41	7	57	5	54	0	1	14	7
Total U. S.	32,041	151,110	6,457	33,169	9,611	44,303	12,729	58,833	1,082	5,211	26,129	118,37
Alaska	14	59	5	16	1	11	6	9	0	1	42	19
Canal Zone	66	278	11	33	12	59	39	159	3	4	82	33
Hawaii	71	201	3	12	5	23	57	149	4	13	23	16
Puerto Rico	761	3,924	95	452	253	1,305	190	1,148	220	978	559	3,01
Virgin Is.	47	82	6	21	36	53	5	7	0	1	13	5
Grand Total	33,000	155,654	6,577	33,703	9,918	45,754	13,026	60,305	1,309	6,208	26,848	122,13

† Includes "Not stated."
‡ No report for May.
§ N. Y. City only.
▲ Phila. & Pittsburgh only.
♠ Included in late latent.

☆ U. S. GOVERNMENT PRINTING OFFICE: 1945—661031

The JOURNAL of VENEREAL DISEASE INFORMATION

(*Formerly* VENEREAL DISEASE INFORMATION)

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Volume 26 October 1945 Number 10

EDITORIAL 215

ORIGINAL ARTICLES

The Frequency of Positive Serologic Tests for Syphilis in Relation to Occupation and Marital Status Among Men of Draft Age . . 216
Lida J. Usilton, M.A.
Paul T. Bruyere, M.D., M.P.H.
Martha C. Bruyere

The Possibility of Predicting the Future Needs in Venereal Disease Control. A Study of the Effects of Mobilization on the Case Load in District of Columbia Clinics 222
George C. Ruhland, M.D.
Frederick G. Gillick, M.D., M.P.H.
Ben D. Chinn, M.D., Ph.D.

CURRENT LITERATURE 229

Federal Security Agency
UNITED STATES PUBLIC HEALTH SERVICE

FEDERAL SECURITY AGENCY

UNITED STATES PUBLIC HEALTH SERVICE

THOMAS PARRAN, *Surgeon General*

Editor: J. R. HELLER, Jr., *Medical Director*
Chief, Venereal Disease Division

Approved by the Director, Bureau of the Budget, as required
by Rule 42, of the Joint Committee

✚

UNITED STATES GOVERNMENT PRINTING OFFICE, WASHINGTON: 1945

For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D
Price 10 cents. Subscription price 75 cents a year.

Planning for Future Needs

With the end of the war period and the beginning of reconstruction we
entering a new phase in the control of the venereal diseases. At the
ne of mobilization, Selective Service ushered in the most widespread case-
ding program ever attempted in this country. It was followed by an
ensive social program to protect the Armed Forces from infection and an
ually intensive program of contact tracing to prevent its further spread
er infection was discovered. The two papers in the current issue are both
ected at utilization of the knowledge gained through this experience toward
ter postwar planning in control.

Such planning is imperative at this time since not only will the whole case-
ding load, heretofore carried in part by the Armed Forces, now fall to
vilian health authorities but an increasing number of young men will be
eased to civilian life. As is pointed out in Ruhland's paper, the Selective
rvice blood-testing program brought about the necessity for many changes
the facilities for diagnosis and treatment of the venereal diseases. It is
so pointed out that these changes are measurable and can be used as guides
planning the most efficient use of such facilities in the future. Even
ough much of the treatment load has been taken from the clinics by the
troduction of hospitalized care and the establishment of rapid treatment
nters, diagnostic and case-finding activities will more than take up the time
d facilities thus released if we are to carry on and complete the work already
arted.

Fortunately we also have a guide in planning better case finding. Selective
ervice, besides uncovering previously unidentified cases, offered an oppor-
nity to study the possible existence of high incidence groups within the
pulation. One such analysis is presented by Usilton, who shows that social
d economic factors should be taken into account in planning mass case-
ding programs.

The St. Louis National Conference on Postwar Venereal Disease Control in
ovember 1944 served to crystallize and confirm the view that case finding
d diagnosis will form the keystone in future venereal disease control. Par-
cularly now is it necessary to study case finding in its every aspect so that
ans can be laid to meet changes brought about by a return to peacetime
nditions. It is urged that each official agency study its records with this in
ind and thus help assure an integrated and effective program.

—The Editors

The Frequency of Positive Serologic Tests for Syphil in Relation to Occupation and Marital Status Amor Men of Draft Age

Lida J. Usilton, M.A.[1], Paul T. Bruyere, M.D., M.P.H.[2] and Martha C. Bruye
United States Public Health Service

With the widespread adoption of rapid forms of therapy the emphasis in venereal disease control has shifted perforce to case finding. Because of the prospect that it may become practicable to give every case found an optimum course of treatment, a greater proportion of the program must be devoted to finding as many cases as possible early in their infection by means of the most efficient technics that can be developed. The three major case-finding devices now in use are contact investigation, routine examination, and the stimulation of voluntarily sought medical care by educational means.

It has been found that an appreciable number of infectious cases can be uncovered among potentially high incidence groups by the performances of routine examinations (*1,2,3*). Therefore a prerequisite for the most effectual use of this technic is the discovering of such groups in the population.

Heretofore, no studies of the prevalence of venereal diseases in general population groups have been made other than by such broad groupings as race, sex, and in some instances, age. This has been true because the only groups of cases available for analysis have been those under treatment in clinics. Such groups are strongly biased with respect to social characteristics, such as housing, income, and occupation, since clinic populations are drawn from among those persons who cannot afford to pay either a part or all of the expenses of private medical care. Thus unbiased data on the social status of persons infected with venereal disease have never been available. Now, however,
through the cooperation of State and lo
health departments with the Select
Service System it has been possible to
tain information on occupation and mar
status for a random sample of the n
who were examined for the draft. This
fords a splendid opportunity to determ
whether a more complete study of soc
conditions will lead to the discovery
high incidence groups in the populat
and whether there is any correlation
tween social characteristics and the f
quency of positive serologic tests for syp
lis. The present paper is an analysis of
results of serologic tests for syphilis p
formed on 531,236 Selective Service reg
trants making up a 20 percent sample
the men examined from January 1 throu
May 31, 1943. The blood test results w
tabulated according to age, race, mari
status, and broad occupational groups.

The data were divided according to ma
tal status and into 11 broad occupatio
groups: professional, farm, clerical, sal
proprietors and managers, crafts, ope
tive, service, labor, unemployed and em
gency relief, and students (table 1)[4]. C
tabulation gave marital status by Stat
and one gave marital status and occupati
by census divisions. All tabulations w
made by single years of age.

Based on data supplied by the Research and Statistics Division of the Selective Service System.

[1] Principal Statistician, Venereal Disease Division.

[2] Statistician, Venereal Disease Division.

[3] Statistician, Venereal Disease Division.

[4] On investigation it was found that within
separate racial and marital status groups the
lationships between the various occupational gro
did not vary significantly from one part of
country to another. Therefore an analysis
made for the country as a whole. The breaks
race and marital status were maintained throu
out, and each occupational group was conside
separately. In some instances, however,
groupings proved too broad to provide an
ceptably homogeneous population. In such grou
the rates fluctuated too widely to permit constr
tion of meaningful age curves. The groups omit
on this account were the unemployed and em
gency relief workers for both races and the fa
group among the white population. The difficu
with this latter may have been due to the fa

Chart 1 shows graphically the observed
es and the age curves for the white
n; chart 2 shows those for the Negroes.[5]
is apparent that there are wide differ-
es in the prevalence of syphilis from
occupational group to another among
ite men. On testing, these differences
re found to be statistically significant
h among the single and the married
ups. Those in the more highly trained
upations have the lowest rates. The
es rise steadily and consistently from
se to the unskilled groups.

Among single white men the profes-
nal class has the lowest rates. There
a considerable jump to the next group,
l it is found that the rates for proprie-
s and managers, clerical workers and
esmen are all about the same. There
a sharp rise then, and the three groups
raftsmen, operatives, and service work-
—have much higher rates. The highest
es of all occurred among laborers,
ugh they are not much higher than
se of the three nearest groups.

Among married white men there is little
no difference in the rates between pro-
sional workers, proprietors and mana-
rs, clerical workers, or salesmen. The
tes then rise slowly to craftsmen, opera-
es, and then service workers. Here again
borers have the highest rates, and in that
oup the difference between married and
gle is much less than for any other
oup.

It is of interest to note that in general in the white men the differences between the syphilis rates of single and of married men are much more marked than are the differences between occupational groups, and that these differences are least in those occupational groups having the highest syphilis rates.

In chart 2 it can be seen that the same tendency for the prevalence rates to rise among the less highly skilled occupational groups is apparent among Negro men. However, in this race no statistically significant difference between either marital status groups or occupational groups could be demonstrated. In only one group, the service workers, was an apparent difference noted between single and married.

As might be expected, rates for students were lower than for other groups on the whole. It can be seen from table 2 that in no instance for either white or Negro men were the rates for students significantly higher than those of any other occupation.[6] Among white men, the professional and clerical groups in the younger ages and the clerical group in the older ages had slightly lower rates than did the students. The student rates were lower in every other instance and for the most part the differences were statistically significant. Table 2 gives the rates for all occupations for these two age groups among single men.

The smallness of the sample did not permit an analysis by occupational groups of marital status other than single and married. Therefore it was necessary to compare this group as a whole with the single and married groups for each race. Among the white men, the other marital status group had significantly higher rates than either the single or the married group when analyzed by age. Among Negroes, however, when comparisons were made between marital status groups at each year

---

t farm labor was included with farm owners.
addition, because of the smallness of the
nples among Negroes, the groups comprising
fessional men, clerical workers, salesmen, and
prietors and managers, had to be combined
this race. The student group is treated in a
arate comparison with the other occupational
ups because of the selective age factor. The
nple for marital status other than married or
gle was too small to analyze for each in-
ridual occupational group. Therefore, other
rital status is compared as a whole with the
rried and single groups without regard to
cupation.

[5] Curves were fitted by least squares to the rates
each year of age in each occupational group,
race and marital status. It was found neces-
ry to represent the rates among white men by
ans of parabolas; straight lines were found to
a satisfactory fit for the Negro.

[6] Because of the selective age factor and small numbers it was not possible to construct curves for students as was done for the other occupational groups. Instead the two age groups, 17 to 20, and 21 to 22 years of age for each occupational group, were compared with students of corresponding ages. Most of the students were single, so a comparison was not made for the married.

CHART 1.—*Frequency of positive serologic tests for syphilis among white men, b*

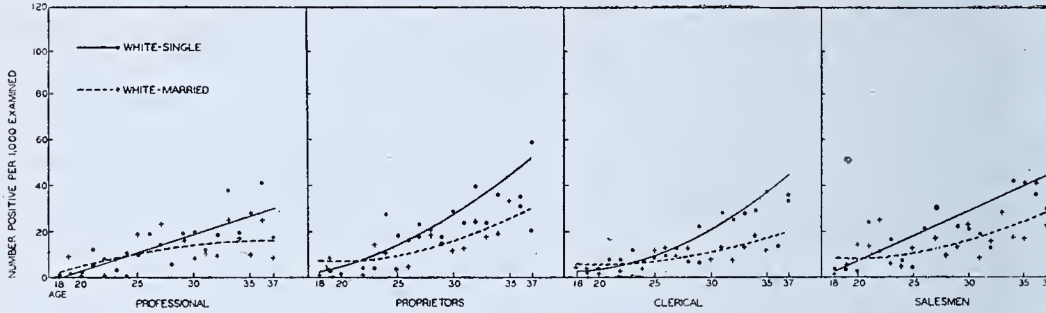
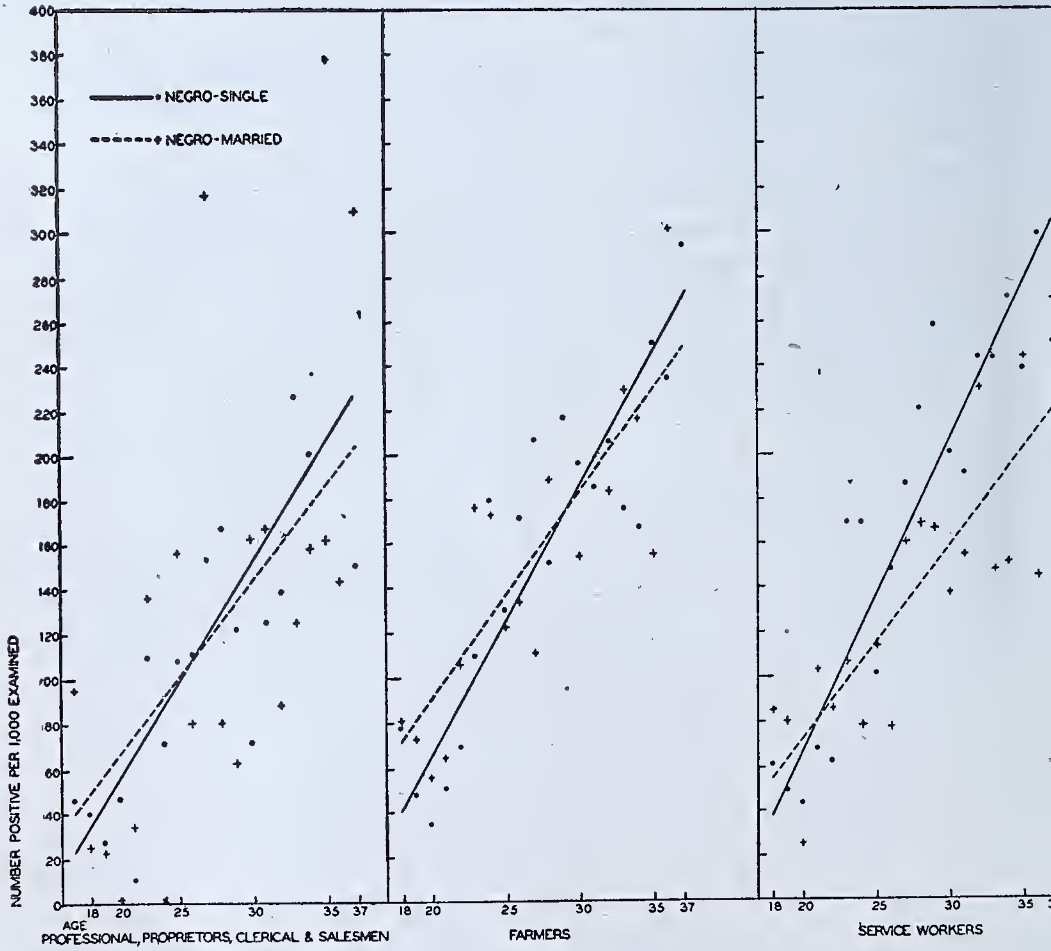
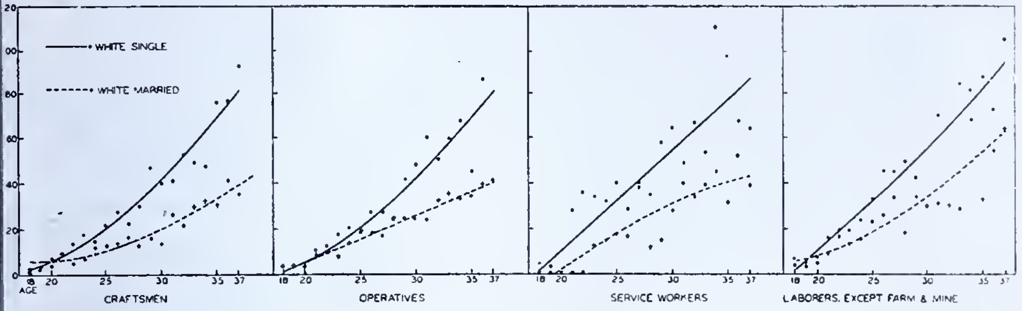


CHART 2.—*Frequency of positive serologic tests for syphilis among Negro men, b*



e, for each occupational group and marital status, and corresponding age curves.



e for each occupational group and marital status, and corresponding age curves.

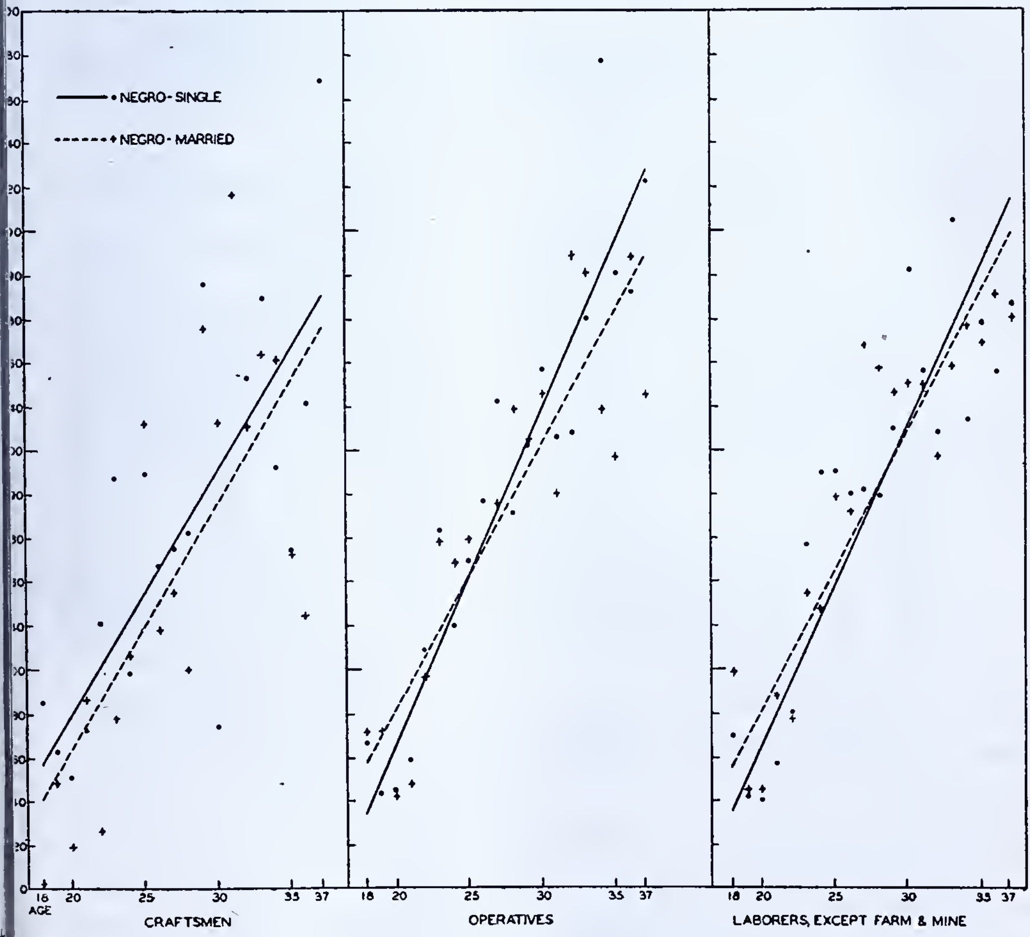


TABLE 1. *Occupations included in each of 11 broad groups*

1. Professional workers:
    - Lawyers and judges
    - Physicians, dentists, veterinarians, pharmacists, etc.
    - Teachers, professors, county agents
    - Technical engineers, chemists, and architects
    - Musicians, writers, artists, and actors
    - Other professional workers
    - Designers, draftsmen, and surveyors
    - Dancers, showmen, and athletes
    - Technicians and assistants, laboratory
    - Other semiprofessional workers
2. Farmers:
    - Managers, foremen, and laborers
3. Clerical workers:
    - Bookkeepers, accountants, cashiers, and ticket agents
    - Stenographers, typists, and office machine operators
    - Mail carriers, baggagemen, and express messengers
    - Shipping and receiving clerks
    - Other clerical and kindred workers
4. Sales workers:
    - Sales agents and brokers
    - Canvassers, peddlers, and newsboys
    - Salesmen, retail and not elsewhere classified
    - Salesmen, not specified
5. Proprietors and managers:
    - Government officials
    - Proprietors, managers, and officials, wholesale and retail
    - Other proprietors, managers and officials, except farm
6. Craftsmen:
    - Carpenters, cabinetmakers, and patternmakers
    - Masons, plasterers, stonecutters, and cement finishers
    - Painters and paperhangers
    - Plumbers, and gas and steam fitters
    - Electricians
    - Roofers and sheet metal workers
    - Cranesmen, construction machine operators, stationary engineers
    - Machinists, millwrights, tool makers
    - Blacksmiths, boilermakers, rollers, structural metal workers
    - Molders, metal
    - Mechanics & repairmen, automobile
    - Mechanics and repairmen (excluding automobile), and loom fixers
    - Printing craftsmen
    - Bakers
    - Locomotive engineers and firemen
    - Foremen, except farm
    - Other craftsmen and kindred workers
7. Operative workers:
    - Laundry, except private family
    - Operatives and laborers, crude petroleum and natural gas
    - Mine operatives and laborers, except crude petroleum and natural ga
    - Painters, except construction a maintenance
    - Chauffeurs, truck drivers, delive men, and motormen
    - Welders and flame cutters
    - Filers, grinders, buffers, polisher
    - Brakemen and switchmen, railr
    - Sailors and deckhands, except Na
    - Linemen and servicemen, telegra telephone, and power
    - Firemen, except locomotive and department
    - Meat cutters, except slaughter a packing house
    - Attendants, filling station, park lot, airport, etc.
    - Miscellaneous specified operati and kindred workers
8. Service workers:
    - Domestic service workers
    - Protective service workers
    - Barbers and beauticians
    - Cooks, except private family
    - Waiters and bartenders
    - Other kitchen workers
    - Charmen, janitors, and porters
    - Other service workers, except mestic and protective
9. Laborers:
    - Fishermen and oystermen
    - Lumbermen, raftsmen, and wo choppers
    - Longshoremen and stevedores
    - Teamsters
    - Garage laborers, and car wash and greasers
    - Gardeners (except farm) a groundskeepers
    - Laborers, by industry:
        - Manufacturing:
            - Food and kindred products
            - Textile, textile products, a apparel
            - Lumber, furniture, and lum products
            - Paper, paper products, printi
            - Chemicals, and petroleum a coal products
            - Stone, clay, and glass produ
            - Metal industries
            - Other specified and not specif manufacturing
        - Nonmanufacturing industries a services:
            - Construction
            - Railroads (includes railroad pair shops)
            - Other and nonclassifiable
10. Emergency workers and unemploy
    - Civilian Conservation Corps enroll
    - Other emergency workers
    - Unemployed (not further specifie
11. Students

TABLE 2.—*Prevalence of syphilis among single men aged 17–22 years, by race and occupation.*

Occupational group	White						Negro					
	17–20*			21–22			17–20*			21–22		
	Number examined	Number positive	Rate per 1,000	Number examined	Number positive	Rate per 1,000	Number examined	Number positive	Rate per 1,000	Number examined	Number positive	Rate per 1,000
rofessional workers	4,120	6	1.5	762	5	6.6	75	2	26.7	35	3	85.7
armers	22,556	94	4.2	2,285	53	23.2	6,616	336	50.8	1,167	66	56.6
roprietors and managers	2,566	6	2.3	505	8	15.8	63	3	47.6	14	1	71.4
lerical workers	24,492	63	2.6	2,162	17	7.9	678	24	35.4	166	4	24.1
alesmen	7,052	24	3.4	516	9	17.4	11	1	90.9	1	—	0.0
raftsmen	19,306	57	3.0	2,537	30	11.8	925	59	63.8	244	22	90.2
peratives	92,098	305	3.3	8,381	100	11.9	5,872	292	49.7	1,301	101	77.6
ervice workers	5,822	24	4.1	575	19	33.0	4,321	217	50.2	1,008	65	64.5
aborers	29,458	118	4.0	2,086	37	17.7	8,816	429	48.7	1,958	131	66.9
nemployed and emergency relief workers	11,088	63	5.7	783	11	14.0	1,321	62	46.9	365	30	82.2
tudents	20,557	46	2.2	1,192	4	3.4	1,256	52	41.4	90	5	55.6

* There were very few men aged 17 examined; therefore, this group is made up essentially of men aged 18-20.

ABLE 3.—*Prevalence of syphilis among men aged 18–37 years, by race, marital status and age.*

Age	White									Negro								
	Single			Married			Other			Single			Married			Other		
	Number Examined	Number Positive	Rate per 1,000	Number Examined	Number Positive	Rate per 1,000	Number Examined	Number Positive	Rate per 1,000	Number Examined	Number Positive	Rate per 1,000	Number Examined	Number Positive	Rate per 1,000	Number Examined	Number Positive	Rate per 1,000
8	87,751	300	3.4	3,052	13	4.3	514	5	9.7	7,815	519	66.4	432	35	81.0	94	13	138.3
9	106,324	334	3.1	8,985	37	4.1	904	7	7.7	13,013	585	45.0	1,185	72	60.8	205	17	82.9
0	48,609	181	3.7	7,430	42	5.7	641	9	14.0	9,557	385	40.3	1,353	58	42.9	274	22	80.3
1	12,379	157	12.7	3,870	41	10.6	395	17	43.0	3,950	232	58.7	793	58	73.1	211	17	80.6
2	9,762	142	14.5	4,665	42	9.0	420	8	19.0	2,518	201	79.8	752	61	81.1	211	24	113.7
3	8,311	149	17.9	4,994	49	9.8	518	11	21.2	1,864	268	143.8	744	105	141.1	300	52	173.3
4	6,611	133	20.1	5,342	67	12.5	650	30	46.2	1,432	224	156.4	712	92	129.2	259	46	177.6
5	6,049	135	22.3	6,015	97	16.1	708	27	38.1	1,176	175	148.8	710	108	152.1	285	59	207.0
6	5,347	144	26.9	6,224	102	16.4	819	42	51.3	1,071	189	176.5	773	116	150.1	335	72	214.9
7	4,934	146	29.6	6,474	131	20.2	903	62	68.7	896	174	194.2	775	151	194.8	361	60	166.2
8	3,533	108	30.6	5,362	99	18.5	755	47	62.3	735	134	182.3	640	124	193.8	342	77	225.1
9	4,913	191	38.9	7,446	160	21.5	1,230	94	76.4	972	211	217.1	982	208	211.8	532	112	210.5
0	3,666	165	45.0	6,152	121	19.7	1,033	80	77.4	731	164	224.4	823	162	196.8	478	103	215.5
1	3,300	149	45.2	5,538	125	22.6	1,010	84	83.2	607	130	214.2	775	151	194.8	454	92	202.6
2	3,123	151	48.4	5.601	145	25.9	1,037	89	85.8	616	133	215.9	777	174	223.9	492	118	239 8
3	2,882	154	53.4	5,359	155	28.9	1,069	80	74.8	553	143	258.6	758	171	225.6	480	102	212.5
4	2,794	155	55.5	5,206	174	33.4	1,111	91	81.9	464	111	239.2	659	144	218.5	414	103	248.8
5	2,633	154	58.5	5,238	153	29.2	1,187	104	87.6	464	121	260.8	724	157	216.9	486	125	257.2
6	2,327	155	66.6	4,918	200	40.7	1,217	88	22.3	410	100	243.9	652	157	240.8	431	100	232.0
7	2,087	137	65.6	3,982	143	35.9	1,099	92	83.7	421	116	275.5	614	151	245.9	464	99	213.4

of age no statistical difference could be demonstrated. The rates for individual years of life among the different marital status groups for each race are shown in table 3.

From the above analysis it would appear that there is undoubtedly a correlation between occupation and the prevalence of syphilis. This, of course, does not imply a causal relationship. Many variables enter the picture, such as the availability of prompt and adequate treatment, the ability to pay for proper treatment, the knowledge that medical aid should be sought, and like factors. Furthermore, except among the highly trained and the completely unskilled, cultural patterns probably have far greater weight, as is indicated by the fact that marriage acts as so effective a deterrent among white men and not among Negroes. This may in part explain the differences that are constantly observed in the prevalence rates from one race to another.

This study obviously cannot be considered a conclusive analysis of the effe of age, race, marital status, or occu tion upon the frequency of positive se logic tests for syphilis. The sample fairly small, the population is limited men subject to the draft, and the oc pational groups are broad and in seve respects unsatisfactory for study in t particular field. However, there can no doubt that the prevalence of syph varies with the social and economic sta of the population examined. Further a more detailed analyses of these factors needed.

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The Possibility of Predicting the Future Needs in Venereal Disease Control

A Study of the Effects of Mobilization on the Case Load District of Columbia Clinics

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In order to be effective, venereal disease control measures must be adapted to current conditions. To keep abreast of rapid changes such as have been observed since the beginning of the war and may be expected now that war has ceased, it is necessary to observe and interpret what has already happened and to apply the knowledge thus gained to preparations for t future. The present paper is an atten to evaluate the effect of mobilization a the Selective Service blood-testing acti ties on the age distribution of syphilis cas admitted to public clinics in the District Columbia. It was undertaken in the ho that some light might be thrown on ce tain factors affecting the venereal disea case load and that wiser planning f future needs might therefore be possib

Up until the time when the Arm Forces began to accept men with uncomp cated syphilis, whether or not they h received adequate treatment, the who burden of finding and treating such cas

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Prepared with the assistance of the Bureau of Venereal Diseases, District of Columbia Health Department, and the Statistical Section, Venereal Disease Division, U. S. Public Health Service.

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to the civilian health departments and he public clinics. During that period fact, together with the mass blood ng brought about by the Selective Serv- System, and the necessity for making many men as possible available for ice, produced many changes in the e-up of clinic populations. These ges occurred not only among the popu- n groups directly affected, but were ndarily felt in other groups. Lessons ned from them may assist in prepar- for the changes that will accompany turn to peacetime conditions.

order to analyze the effects of mobili- on upon certain of the problems of ereal disease clinics, material relating he early war period, readily available he District of Columbia through the ices of the Central Tabulating Unit, studied. This material consisted of lations of cases of syphilis admitted linics from Jan. 1, 1940, through Apr. 1943. All cases were included for ch the following information was wn: race, sex, age, diagnosis, and month year of admission. Altogether there e 26,870 cases which fulfilled all of above criteria: 1,471 white men, 1,029 te women, 12,045 Negro men and 12,- Negro women. The majority of the s had passed the early stages of the ase. Of the total 26,870, only 3,643 e admitted with primary or secondary hilis. An increasing number were ad- ted each successive year for each diag- tic group.

he first group studied was that of prim- and secondary syphilis among male ents (table 1). Logically, there is no son why the draft should affect the at which men acquire syphilis, but draining off of uninfected young men n the civilian population might be ex- ted to alter the age distribution of early hilitic patients admitted to civilian tment sources. This was found to be for Negroes and, to a lesser degree, white men. No significant changes e observed in the latter group, prob- y because the total number of cases small. As would be expected, there s an increase in the proportion of admissions in those ages not subject to the draft, or only included in the draft toward the end of the period under consideration. Correspondingly, there was a decrease in the proportion of admissions in the ages subject to the draft for the whole period. The actual number of cases increased for all groups, probably because of the increasingly greater control efforts being made.

In table 1, men admitted with primary and secondary syphilis are grouped according to Selective Service age limits. No significant changes in age distribution were found from one time period to another among the white men. With only 272 cases altogether, any change would have to be large to be significant. However, the trends followed the expected patterns to some extent, and the proportion of individuals in the 45-year and over group (a group never subjected to the draft) shows a steadily upward trend.

The Negro group, with many more cases, gives a clearer picture of the changes taking place in the age distribution of civilian men with early syphilis. The group under 18 years of age shows an upward trend. (One 6-month group has as many as 20 admissions for this age.) The upward trend is maintained in the 18- to 20-year-age group, and here the change from one period to another is highly significant statistically. The 21- to 35-year group also shows significant changes. This is the group that has always been subject to the draft, and therefore, as was expected, forms a steadily decreasing percentage of the total admissions. The drop is significant. However, the 36- to 44-year group shows no significant changes. Beyond this age there are practically no admissions for primary and secondary syphilis among Negro men.

The only change that might be expected in the age distribution of female admissions for primary and secondary syphilis during this period would be a shifting toward the younger ages due to the changing sociologic conditions of wartime and to the tracing of contacts of cases found through Selective Service blood testing. During the period under consideration, only 177 white female patients with primary and

TABLE 1.—*Male patients with primary and secondary syphilis admitted to Central T lating Unit clinics in the District of Columbia, by race, age, and year and m of admission*

Age on admission	1940 Jan.–June	1940 July–Dec.	1941 Jan.–June	1941 July–Dec.	1942 Jan.–June	1942 July–Dec.	194 Jan. Apr
White:				Number			
Less than 18...	—	1	—	1	1	1	—
18–20........	3	3	3	2	4	3	2
21–35........	14	27	27	25	23	27	13
36–44........	9	14	10	8	9	11	3
45 and over...	1	4	2	3	5	7	6
				Percent			
Less than 18...	—	2	—	3	2	2	—
18–20........	11	6	7	5	10	6	8
21–35........	52	55	64	64	55	55	54
36–44........	33	29	24	20	21	23	13
45 and over...	4	8	5	8	12	14	25
Negro:				Number			
Less than 18...	6	14	6	20	6	17	17
18–20........	34	27	22	41	62	72	63
21–35........	118	161	148	159	163	204	136
36–44........	12	15	18	12	11	13	9
45 and over...	4	3	4	2	1	4	2
				Percent			
Less than 18...	3	6	3	8	3	6	7
18–20........	20	12	11	18	26	23	28
21–35........	69	75	76	69	68	67	60
36–44........	6	6	8	4	3	3	4
45 and over...	2	1	2	1	(*)	1	1

* Less than ½ of 1 percent.

secondary syphilis were admitted to Central Tabulating Unit clinics in the District of Columbia (table 2). When these are broken into 6 months or even single year groups, the numbers are too small to show any trends as far as the age distribution is concerned. However, there did seem to be a slight tendency for the younger ages to form an increasingly larger proportion of the total admissions. This tendency is more marked among the Negro women, but the changes noted are still all too small to be statistically significant. From table 2 it can be seen that
among Negro women the group under
years of age and the group 15 to 19 y
of age both increased slightly, while
35- to 44-year group decreased cor
pondingly. There seemed to be no
markable change in any direction in
other groups.

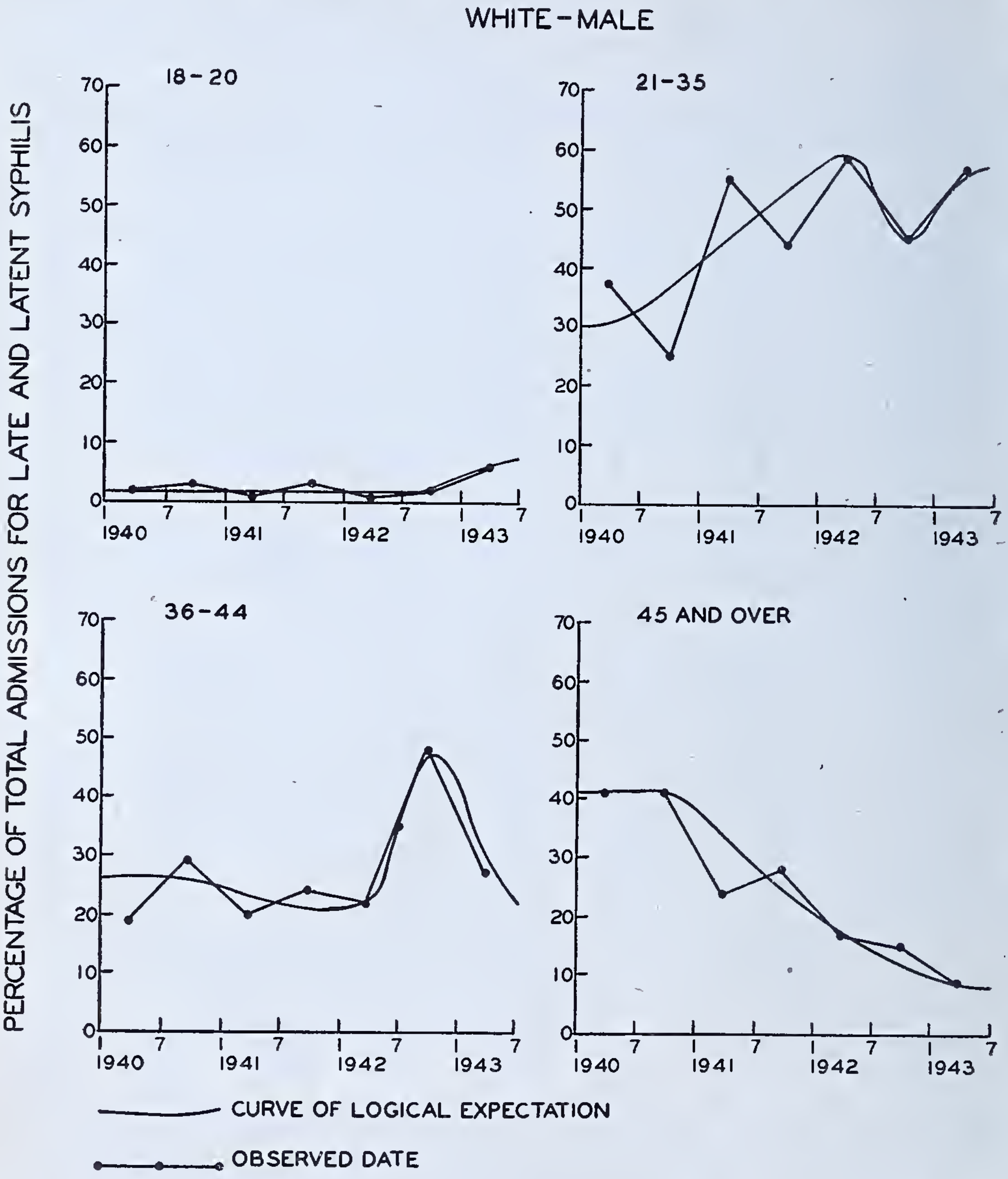
It is in the admissions of latent and
syphilis that the greatest change in
age distribution among men might be
pected, since previously unknown and
recognized infections were found in the
lective Service blood testing. Here the
on admission should follow closely the a

TABLE 2.—*Females with primary and secondary syphilis admitted to Central Tabulating Unit clinics in the District of Columbia, by age and year and month of admission*

Age on admission	Year and month of admission						
	1940		1941		1942		1943
	Jan.–June	July–Dec.	Jan.–June	July–Dec.	Jan.–June	July–Dec.	Jan.–April
White:	Number						
Less than 15...	—	—	—	—	—	—	—
15–24........	6	7	27	15	16	16	10
25–34........	—	7	5	4	16	11	3
35–44........	2	5	2	3	6	4	1
45–54........	2	—	2	4	—	2	—
55–64........	—	—	—	—	—	1	—
65–74........	—	—	—	—	—	—	—
75 and over...	—	—	—	—	—	—	—
	Percent						
Less than 15...	—	—	—	—	—	—	—
15–24........	60	37	75	58	42	47	72
25–34........	—	37	14	15	42	32	21
35–44........	20	26	6	12	16	12	7
45–54........	20	—	6	15	—	6	—
55–64........	—	—	—	—	—	3	—
65–74........	—	—	—	—	—	—	—
75 and over...	—	—	—	—	—	—	—
Negro:	Number						
Less than 15...	3	11	6	14	15	12	12
15–19........	71	69	69	98	105	123	85
20–24........	58	62	69	92	91	90	68
25–29........	21	24	30	20	40	30	24
30–34........	11	10	11	19	17	14	14
35–44........	18	12	6	11	8	9	6
45–54........	1	2	—	2	—	4	1
	Percent						
Less than 15...	2	6	3	6	6	4	5
15–19........	39	36	36	38	38	44	40
20–24........	32	33	36	36	33	32	32
25–29........	11	13	16	8	14	11	11
30–34........	6	5	6	7	6	5	8
35–44........	10	6	3	4	3	3	3
45–54........	1	1	—	1	—	1	1

being examined if control and follow-up have been effective within the area. Ages 21 through 35 years were within the draft limits throughout the whole period of study. These ages, then, should form an increasingly large proportion of all admissions for late syphilis as more and more cases were uncovered, with a slight compensatory drop following the inclusion of men aged 36 to 44 years. The 18- to 20-year group was not subject to the draft until the latter part of 1942, so these should show a rise in 1943. Between April and December 1942, men 36 to 44 years of age were drafted for the first time. These then should show a rise in the latter part of 1942 and a drop in 1943. The group over 44 years of age was never

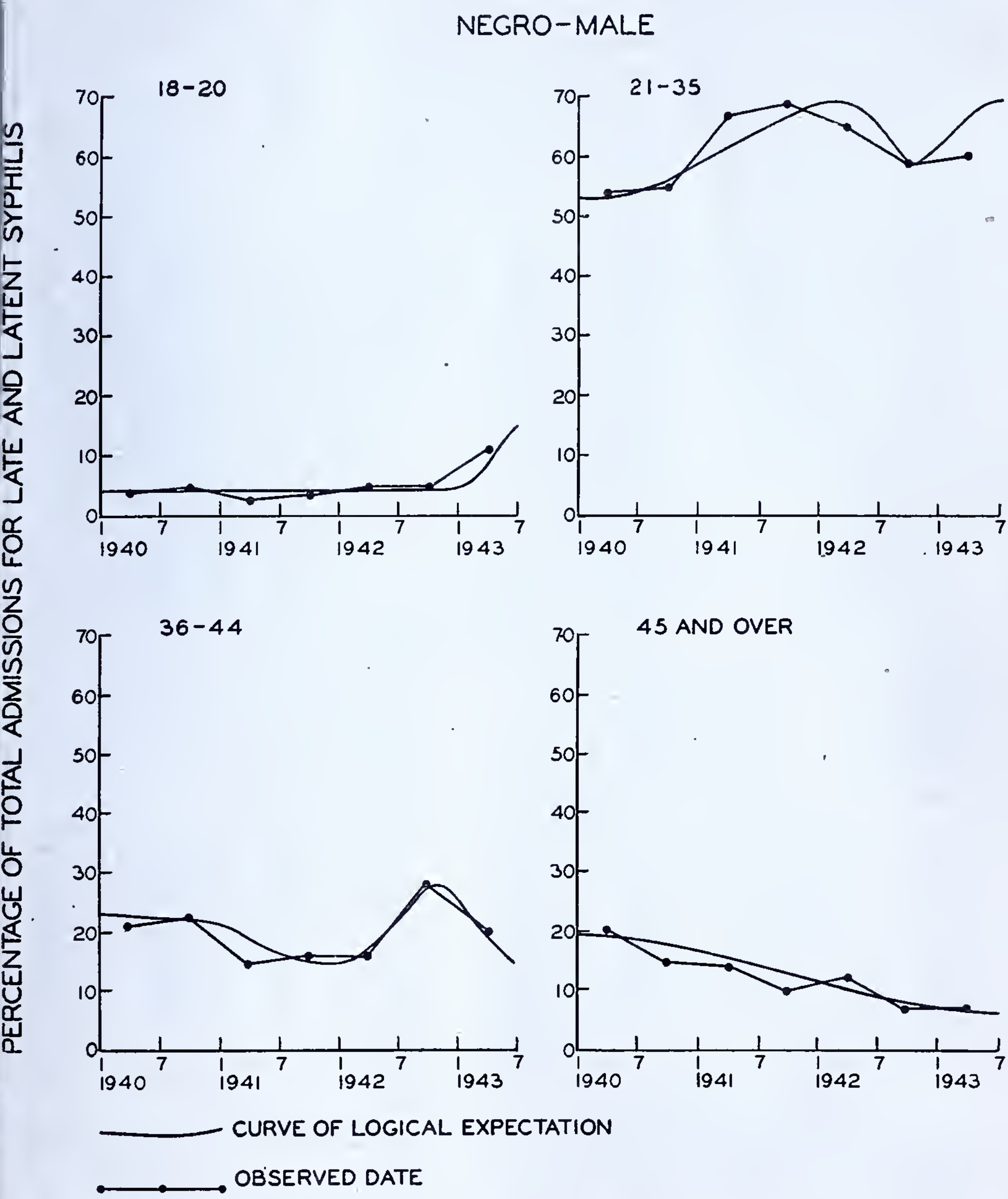
Chart 1.—*Expected and observed changes in age on admission to District of Columbia clinics of white men with latent and late syphilis.*



called by Selective Service, therefore no greater proportion of the existing infections in this group were uncovered than normally would be, so that the group should show a steady decline throughout the period. Charts 1 and 2 show how closely the age distribution followed the changes that would be expected under the given conditions. The changes in direction of the smooth curves, though not their amplitude, were drawn according to the considerations just outlined. It can be seen very clearly that in both races the expected changes in the age distribution did occur. A steadily growing proportion of the admissions for late syphilis among men represented those whose infections were uncovered by Selective Service examinations.

There was less reason to expect change in the age distribution of women admitted with latent and late syphilis than in any

CHART 2.—*Expected and observed changes in age on admission to District of Columbia clinics of Negro men with latent and late syphilis*



other group. However, some changes were observed (table 3). There was an increase in absolute numbers, particularly among the Negro women. This can be partially explained on the score of better control and the contact tracing of contacts of infected selectees and military personnel.

Among the white women there was some shifting toward the age groups under 20 years, but the only statistically significant change noted was a decreasing percentage of admissions between the ages of 25 and 29 years. Among Negro women there was a much more decided shift toward the younger ages. The upward trend in the percentage admitted before the age of 25 was highly significant statistically; in fact, both the 15- to 19-year group and the 20- to 24-year group showed significant increases. When the groups above 25 years are considered separately, significant changes were found only in two groups: those aged

TABLE 3.—*Female admissions for latent and late syphilis to Central Tabulating Un clinics in the District of Columbia, by race, age and year and month of admissi*

Age on admission	Year and month of admission						
	1940		1941		1942		1943
	Jan.–June	July–Dec.	Jan.–June	July–Dec.	Jan.–June	July–Dec.	Jan.–April
White:	Number						
Less than 15...	—	2	—	2	1	3	—
15–19........	4	5	10	8	3	16	14
20–24........	22	23	30	23	24	28	23
25–29........	35	23	23	23	22	27	21
30–34........	22	13	22	25	22	19	22
35–39........	17	14	14	7	20	13	18
40–44........	8	15	11	9	11	4	11
45–54........	11	14	15	18	9	13	9
55 and over...	9	6	4	1	5	3	3
	Percent						
Less than 15...	—	2	—	2	1	2	—
15–19........	3	5	8	7	3	13	12
20–24........	17	20	23	20	20	22	19
25–29........	27	20	18	20	19	21	18
30–34........	17	11	17	21	19	15	18
35–39........	13	12	11	6	17	11	15
40–44........	6	13	8	8	9	3	9
45–54........	9	12	12	16	8	11	7
55 and over...	7	5	3	1	4	2	2
Negro:	Number						
Less than 15...	9	7	10	13	5	19	12
15–19........	150	120	141	191	211	284	266
20–24........	293	272	326	408	427	564	441
25–29........	318	280	318	366	355	491	324
30–34........	210	148	211	245	233	318	222
35–39........	151	141	134	149	175	198	164
40–44........	86	73	85	104	79	108	97
45–54........	78	73	86	82	87	102	64
55 and over...	39	31	20	29	33	34	27
	Percent						
Less than 15...	1	1	1	1	(*)	2	1
15–19........	11	11	11	12	13	13	16
20–24........	22	24	24	26	27	27	27
25–29........	24	24	24	23	22	23	20
30–34........	16	13	16	15	15	15	14
35–39........	11	12	10	9	11	9	10
40–44........	7	6	6	7	5	5	6
45–54........	6	6	6	5	5	5	4
55 and over...	3	3	2	2	2	2	2

* Less than ½ of 1 percent.

5 to 29 years and those aged 45 to 54 ears. However, all groups showed a downward trend.

The foregoing analysis has shown that enereal disease case-finding activities, whether based on epidemiologic or widepread blood-testing technics, do have a redictable and measurable effect on the olume and type of cases which must be andled by official control agencies. Thereore it should be possible, as it is certainly necessary if progress is to be made in this ield, to foretell and make provision for the problems of diagnosis and treatment that will arise with the changing conditions of demobilization and reconversion. Some of he factors which must be considered are he return to civilian life of great numbers of young men released from the Armed Forces, the availability of information concerning the individuals infected, discontinuation of case finding and treatment by military agencies, the type and stage of venereal disease encountered, the migration of workers brought about by the cessation of war industries and the beginning of peacetime civilian production, and other factors less general but easily recognized by authorities in the areas concerned.

In the District of Columbia no sudden decrease in population is expected, but rather a continuing slow growth in total numbers. However, with the return of veterans to their old jobs and the return of temporary employees to their homes, there will be much turnover among the individuals composing the population. The unrest attendant upon such migrations may well be accompanied by increased exposure to venereal diseases. The proportion of cases found among young men, which has been very low of recent months, will undoubtedly increase as this segment of the population increases. All these facts lead us to expect an increasing need for venereal disease control activities, especially those having to do with case finding. Therefore, even though the rapid treatment center has taken over much work formerly done in the clinic, nevertheless clinic facilities must be strengthened rather than diminished in order to accomplish the necessary case-finding, diagnostic and referral work.

Such planning as this is necessary if health departments are not to be either swamped with unexpected patients or left with unused facilities. The experiences of the war period should prove invaluable in planning for immediate needs, and furthermore will prove useful in planning for permanent control measures.

CURRENT LITERATURE

Note: Abstracts of any article listed below are available on request. In addition, abstracts of all articles concerned with venereal diseases or related subjects which have been published in the better known journals both here and abroad during the past 20 years are in the files. These are open to workers in the field. An asterisk (*) before a title indicates that the article is abstracted below.

ACTA DERMAT.-VENEREOL., STOCKHOLM

Pathogenesis of eye complications of arsphenamine dermatitis. S. von Pastinszky. 24: 480, Mar. 1944.

Treatment of syphilis with specific drugs and simultaneous fever therapy, appraised by the effect on Treponema pallidum in fresh eruptions. H. Haxthausen. 25: 1, June 1944.

Cultivation of gonococci as diagnostic method in gonorrhea in women. F. Reymann. 25: 9, June 1944.

Indications for the treatment of gonorrhea with sulfathiazole and fever shock, elucidated by chemoresistance and gonococcus complement fixation reaction. P. V. Marcussen. 25: 77, June 1944.

ACTA MED. SCANDINAV., STOCKHOLM

Diseases of heart and blood vessels due to congenital syphilis: Case report. I. Aggerback. 116: 454, Mar. 10, 1944.

AM. J. CLIN. PATH., BALTIMORE

Micro-methods of estimating penicillin in blood serum and other body fluids. Alexander Fleming. 15: 1–6, Jan. 1945.

The use of Fleming's modification of the Wright slide cell technic for determining penicillin in body fluids. Dorothy H. Heilman and Wallace E. Herrell. 15: 7–9, Jan. 1945.

Measuring stick for quantitative Kahn tests. Gladys Green. 15: 13, Jan. 1945.

Laboratory anticipation of sulfonamide resistance in gonorrhea. Ruell A. Sloan, Robert D. Baker and Byron W. Fraser. 15: 24–27, Jan. 1945.

AM. J. PUB. HEALTH, NEW YORK

Venereal disease among troops of the Panama Canal Department. News from the Field. 35: 775, July 1945.

ANN. INT. MED., LANCASTER

The virus of lymphogranuloma venereum. Editorial. 22: 891–895, June 1945.

ARCH. DERMAT. & SYPH., CHICAGO

*Dementia paralytica and Wassermann reaction of the spinal fluid. Adolf Krakauer. 51: 373–375, June 1945.

Dementia paralytica and Wassermann reaction of the spinal fluid.—Krakauer, after reviewing medical literature, observed that dementia paralytica rarely occurs in association with a negative Wassermann reaction of the spinal fluid.

Seven cases observed at the Clarinda State Hospital, Clarinda, Iowa, are presented in the study which bears out the suspected possibility that dementia paralytica may coincide with a negative Wassermann reaction of the spinal fluid.

The possibility that a number of similar cases could be found indicate the importance of further study.

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Yaws and positive Kahn. G. Shearer. Correspondence. No. 4404: 794, June 2, 1945.

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Differences in the nature of antibacterial action of the sulfonamides and penicillin and their relation to therapy. Colin M. MacLeod and Edna R. Stone. 21: 375–388, July 1945

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BULL. WAR MED., LONDON

Penicillin: Indications for its use and methods ot administration. Memorandum issued b the Ministry of Health. 5: 613–615, Jun 1945.

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I. The problem of venereal disease. Presen position with regard to V. D. control. H. C P. Gunewardene. 11: 2–4, Jan.–Mar. 1944

II. Control of venereal diseases. More inten sive measures adopted during 1943. 11: 4–7 Jan.–Mar. 1944.

III. The place of the sanitary assistant in venereal diseases clinic. D. T. S. S. Gun wardena. 11: 8–11, Jan.–Mar. 1944.

CONNECTICUT M. J., HARTFORD

*Penicillin treatment of neurosyphilis. Augustu S. Rose. 9: 522–525, July 1945.

Penicillin in tablets. News Item. 9:557, Jul 1945.

Penicillin treatment of neurosyphilis.—The author reports an unpublished preliminary summary on 70 cases of neurosyphilis treated with penicillin and followed for 4 to 12 months. He reviews the literature concerning penicillin treatment of syphilis with emphasis on neurosyphilis.

During the past 14 months the neurosyphilis service of the Boston Psychopathic Hospital has treated 140 cases of symptomatic neurosyphilis. Of these, the great majority were diagnosed general paresis because of their psychiatric symptoms. The program consisted of a short course of fever therapy, one-half the usually prescribed amount, and penicillin given concurrently or in succession. A few patients were given penicillin alone because of various contraindications to fever. In all patients the sodium penicillin, dissolved in saline, was administered intramuscularly for a total dose of 3,000,000 Oxford units. Until recently all cases were given 50,000 O.u. per injection. The interval between injections varied according to a plan designated to obtain data on the time interval giving best results. Series of cases were grouped according to the time interval between injections: every 4 hours, every 3 hours, every 2 hours, and every hour, the latter group having the injections only during the time of their temperature elevation. In another group, the individual dose was reduced from 50,000 to 25,000 units, given at the same intervals day and night for the total of 3,000,000 units. No ntisyphilitic therapy was given other than he one-half course of fever plus the peni- llin. A few cases were given a second nd third course of penicillin when clinical udgment demanded it. Fever therapy was ot repeated.

Clinical results of this study show that f 36 cases of fairly early general paresis 4 are improved, 11 show no change, nd 1 is worse. Thirteen cases of ng standing general paresis which mainined positive spinal fluids and had not nproved in spite of other therapy are now onsidered as: 1, improved; 10, no change; , worse.

The cases of tabes dorsalis have shown o dramatic change. Of 6 cases of prinary optic atrophy, 5 obtained an apparent rrest of visual loss with 1 case showing rogression. The author states that no ther form of therapy has ever shown such high percentage of arrest of visual loss.

More important than the clinical results t this stage of follow-up are the spinal luid results. They show two trends. One vas an immediate increase in the number f cells and of total protein together with temporary intensification of symptoms. The other was a gradual reduction in ells and protein to normal followed in veeks or months by a decrease in the inensity of the Wassermann reaction. The irst of these changes occurs only in previously untreated cases and may be considered a modified therapeutic shock or Herxheimer reaction. Such reactions occur only following the administration of otent antisyphilitic substances and so may e accepted as evidence of the spirocheticidal potency of penicillin.

The second type of spinal fluid change has been observed following malaria therapy. A comparison of the spinal fluids of the penicillin-treated cases with those treated by older methods shows comparable trends. The effect on the spinal fluid of penicillin treatment is not better, although it does compare favorably.

Penicillin is an active therapeutic agent in all forms of neurosyphilis, but the degree of effectiveness has not yet been determined. The time has not arrived to recommend the use of penicillin in the treatment of neurosyphilis. Within the next few years sufficient data will have been obtained so that regimens of treatment can be advised in the management of neurosyphilis.

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Venereal diseases are of economic origin. Gordon Bates. Spring Number: 15, July 1945.

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Leprosy and syphilis. P. G. Peixoto. 11: 43–48, Dec. 1943.

J. A. M. A., CHICAGO

*Penicillin in neurosyphilis: Effect on blood and spinal fluid. George D. Gammon, John H. Stokes, Herman Beerman, Norman R. Ingraham, Jr., John W. Lentz, Henry G. Morgan, Willard Steele and Elizabeth Kirk Rose. 128: 653–654, June 30, 1945.

Thrombocytopenic purpura due to mapharsen (oxophenarsine hydrochloride-U. S. P.). Marvin Schwartz and Elmore C. Vonder-Heide. 128: 657–659, June 30, 1945.

Mapharsen and bismuth in cerebrospinal syphilis—injection technic. Queries and Minor Notes. 128: 838, July 14, 1945 .

Repatriation. Foreign Letters - Paris. 128: 896, July 21, 1945.

Cutaneous lesions and gonorrhea. Queries and Minor Notes. 128: 909, July 21, 1945.

Penicillin in the treatment of frambesia. A. Marques da Cunha and A. Area Leão. Correspondence. 128: 1120, Aug. 11, 1945.

Penicillin in neurosyphilis: Effect on blood and spinal fluid.—The authors summarize the observations on blood and spinal fluid of 89 cases of neurosyphilis treated from November 1943 to October 1944. This study continues work previously reported, but is confined to patients treated at the University of Pennsylvania.

The findings indicate clearly that penicillin has an effect on the blood serologic reactions in neurosyphilis and an even greater effect on the elements of the spinal fluid. The improvement apparently continues for as long as 4 months after an 8-day course.

Both dosage and length of treatment are important in the result. Within the range of dosage of sodium penicillin employed in this study (1.2 million to 4.0 million O.u.), larger doses appeared better than smaller ones and the best results were obtained when the larger doses were given in 2 courses, that is, when the length of treatment was increased. In view of the history of other forms of treatment for syphilis, this might have been expected.

Tables are given on the effect of various doses of penicillin on the spinal fluid and blood and also the responses in the various types of neurosyphilis.

J. BONE & JOINT SURG., BOSTON
Acute manifestations of yaws of bone and joint. A. J. Helfet. 26: 672–681, Oct. 1944.

J. INDIAN ARMY M. CORPS, POONA
Recent advances in the treatment of venereal diseases. E. E. Prebble. 1: 26–28, Jan. 1945.

J. INDIANA M. A., INDIANAPOLIS
* Intrathecal penicillin in cerebral spinal syphilis. John R. Thrasher. 38: 216–220, July 1945.

Intrathecal penicillin in cerebral spinal syphilis.—Thrasher gives a preliminary report on the results obtained with the intrathecal injection of penicillin in the treatment of patients with central nervous system syphilis. A wide variety of central nervous system cases was selected. Since August 1944, some 70 cases have been treated to date by this method alone.

A review of the literature revealed that penicillin introduced intrathecally remained in the spinal fluid over 24 hours, and that after 3,500,000 units of penicillin had been given intramuscularly (40,000 units every 3 hours) no penicillin could be demonstrated in the spinal fluid. To obtain additional clinical results the intrathecal method was used. Treatment was started with 10,000 and 20,000 units. Since 20,000 units were found to be well tolerated, this standard was adopted. For comparative study, daily, weekly, fortnightly, and monthly injections were made, and it was found that the weekly injections seemed the most practical. The injections were given by the Swift-Ellis technic.

Thrasher observed that clinical improvement began first. This was followed much later by a serologic improvement in the spinal fluid. A few cases showed no clinical or serologic improvement. The number of treatments that can or should be given has not yet been determined. Meningeal meningovascular treatments appeared to respond best. Paretics responded better than expected. The Swift-Ellis technic, it is to be remembered, is generally considered not satisfactory in paretics. Locomotor ataxia cases responded well. Syphilitic spinal myelitis reacted well to this treatment. Optic atrophy did not seem to be checked by intrathecal penicillin, but the number of cases observed is too small at present for conclusive evaluation. Intrathecal penicillin can be used in cases where malaria is contraindicated because of physical condition or age.

Many cases responded favorably to intrathecal penicillin, but much work must be done to establish its exact place with the many other kinds of treatment used for central nervous system syphilis. Best results are obtained by a judicious and careful selection of several methods for any particular case of central nervous system syphilis.

Sixteen case reports are given, noting the reactions in the spinal fluid.

J. M. A. GEORGIA, ATLANTA
Georgia's deplorable syphilis rate. 34: 116, June 1945.
Relapsing syphilis after inadequate penicillin therapy. Hugh Hailey. 34: 116, June 1945.

J. MICHIGAN M. SOC., LANSING
Michigan Rapid Treatment Center. Nelson W. Ryan. 44: 594–597, June 1945.

J. NAT. M. A., NEW YORK
Sulfonamides in otolaryngology and ophthalmology. J. G. Stuart. 37: 110–112, July 1945.

J. SOCIAL HYG., NEW YORK
Sex education and the schools. John H. Stokes. 31: 193–210, Apr. 1945.
Preinduction course for high school students. Roy E. Dickerson. 31: 211–216, Apr. 1945.
Notes on recent State activities relating to sex education. 31: 220–227, Apr. 1945.
Education and guidance concerning human sex relations. Notes for parents and teachers. Maurice A. Bigelow. 31: 230–232, Apr. 1945.
Alabama: First results of State-wide blood-testing program. News from the States and communities. 31: 243–244, Apr. 1945.

LANCET, LONDON
Penicillin in acute syphilitic meningitis Annotations. 1: 696, June 3, 1945.

M. REC., NEW YORK
Ophthalmia neonatorum. G. Griffin Lewis. 158: 351–354, June 1945.

The prevention of blindness. Joseph Shanks. 158: 354–357, June 1945.
Iodine and disease. Editorial. 158: 360, June 1945.

MIL. SURGEON, WASHINGTON
Agranulocytosis (caused by mapharsen and treated with sulfadiazine). Herman Tarnower. 96: 516–520, June 1945.
Penicillin in gonorrhea. New Orleans project. Association Notes. 96: 543, June 1945.
Treatment of syphilis. Association Notes. 96: 544, June 1945.
Venereal disease incidence. Association Notes. 96: 545, June 1945.
Pitfalls in the diagnosis of primary syphilis. Jerome M. Spatz. 97: 64–65, July 1945.

MONTHLY BULL., INDIANA STATE BOARD OF HEALTH, INDIANAPOLIS
Part of education in a program for control of venereal diseases. George W. Bowman. 48: 104, 121–122, May 1945.

MÜNCHEN. MED. WCHNSCHR., MUNICH
Syphilis and its provocation. E. M. Müller. 91: 312, June 16, 1944.

NEW ENGLAND J. MED., BOSTON
Penicillin for treatment of gonorrhea. News Item. 232: 774–775, June 28, 1945.
Case report from the Massachusetts General Hospital. 233: 191–195, Aug. 9, 1945.

NEW YORK STATE J. MED., NEW YORK
Dermatology and syphilology. E. William Abramowitz. 45: 1429–1431, July 1, 1945.
The cause of uveitis. Daniel B. Kirby. 45: 1655–1658, Aug. 1, 1945.
The increased incidence of venereal disease in up-State New York. James H. Lade. 45: 1663–1664, Aug. 1, 1945.

NOVA SCOTIA M. BULL., HALIFAX
A preliminary report of two cases of early syphilis treated by the 5-day massive intravenous arsenotherapy method. Edwin D. Levittan. 24: 146–150, May 1945.

OHIO STATE M. J., COLUMBUS
* The practical application of quantitative serologic tests for syphilis. Alfred L. Weiner and Marie McNamara. 41: 517–520, June 1945.

The practical application of quantitative serologic tests for syphilis.—Since recent trends in the rapid treatment of syphilis have stimulated interest in the use of quantitative serodiagnostic tests, the authors present some practical aspects of the application of this technic in several types of clinical syphilis.

In a detailed discussion, the authors point out the favorable aspects of the quantitative serologic tests for syphilis, proving that this type of testing is essential to the optimum treatment of early syphilis and useful in the management of latent and tertiary syphilis. Quantitative testing at frequent intervals (weekly or every 2 or 3 weeks) enables much greater accuracy in following the serologic trend. It proved to be of inestimable value in following the progress of patients with early syphilis in the Venereal Disease Clinic of the Cincinnati General Hospital over a 2-year period.

Quantitative serologic tests for syphilis in the study of suspected false positive serologic reactions are discussed and shown to be of value. They were found to be useful in the interpretation of the status of the newborn of syphilitic mothers.

Treatment failure—protracted seroresistance and clinical complications, especially neurosyphilis—among patients with early syphilis occurs predominantly in those who have experienced mucocutaneous relapse, a phenomenon usually preceded by a persistent rise in the serologic titer. Impending relapse which is thus detected by quantitative serologic tests can often be prevented by intensification or modification of the therapy which is being administered.

The application of these principles to the management of early syphilis should materially increase the rate of curability of the disease. The authors urge the routine adoption of the use of quantitative serologic procedures in early syphilis. The more limited usefulness of the tests in other phases of syphilis is discussed.

PENNSYLVANIA M. J., HARRISBURG
Case report of the Philadelphia General Hospital (monthly feature—test your insight). 48: 1090–1091, July 1945.

PUB. HEALTH NEWS, TRENTON
Today and tomorrow in public health. Thomas Parran. 27: 267–277, June 1945.

RHODE ISLAND M. J., PROVIDENCE
Some recent advances in the control of infectious diseases. Francis G. Blake. 28: 409–415, 421, June 1945.

ROCKY MOUNTAIN M. J., DENVER
Uses and abuses of sulfonamide therapy: a review. James J. Waring. 42: 432–441, June 1945.

Schweiz. med. Wchnschr., Basel

Die Krise in der sulfonamidtherapie der gonorrhœa. (The crisis in the treatment of gonorrhea with sulphonamide drugs.) G. Miescher. 74: 684–688, June 24, 1944.

Science, Lancaster

The oxydase reaction in chick embryos and broth media containing Neisseria. Harry A. Feldman. 101: 646–647, June 22, 1945.

A search for virus-inactivating substances among microorganisms. Doris Jones, F. R. Beaudette, Walton B. Geiger and Selman A. Waksman. 101: 665–668, June 29, 1945.

*Increasing and prolonging blood penicillin concentrations following intramuscular administration. Jack Bronfenbrenner and Cutting B. Favour. 101: 673–674, June 29, 1944.

Increasing and prolonging blood penicillin concentrations following intramuscular administration.—In this study, the authors report that restriction of fluid intake to 1,500 cc. and the salt intake to 3 gm. a day doubles the penicillin blood level following intramuscular injections of penicillin.

Following the observation by other investigators that para-aminohippuric acid competes with penicillin for excretion, the authors found in 6 patients that orally administered benzoic acid had the same effect. Since restriction of fluid and salt intake also delayed excretion of penicillin, these two procedures were combined. The result was a four- to eightfold increase in penicillin blood level with a prolonged effective blood concentration.

The method used was to give benzoic acid crystals as a suspension in a sweet gelatine dessert or in acacia flavored with syrup of orange to prevent local irritation of the throat during ingestion, or in 0.6 gm. gelatin capsules. The usual dose was 2.5 gm. or 4 capsules every 4 hours. Most patients preferred the capsules. Sodium penicillin, 20,000 units in 2 cc. of physiologic saline, was given intramuscularly every 2 or 3 hours. Penicillin levels were determined on the serum of freshly drawn blood which was allowed to clot before centrifugation. The assays were done by the broth dilution tube method of titration using a standard culture of Staphylococcus aureus.

Control levels following single intramuscular injections of penicillin in saline agreed closely with those for the same doses reported by other investigators. During the control period the patients were placed on a daily intake of 1,500 to 2,000 calories with the diet containing 6 to 10 gm. of salt and a fluid intake of 2,500 to 3,000 cc. After the third day of this regimen, penicillin levels were determined. Penicillin was given 20 to 30 minutes after the benzoic acid during the combined treatment.

During the 3-day diet restrictions, the patients received the same caloric intake as previously, but fluids were limited to 1,000 to 1,500 cc. a day and salt to 3 gm. or less a day. On the restricted fluid intake the urine volume commonly fell to 400 to 600 cc. in 24 hours.

Besides determining the degree of elevation and effective maintenance of blood levels, urine levels were determined to check the percent excretion of penicillin in a 2-hour period following intramuscular injection. The experimental results of this phase of the study are charted. Also a table showing the fluid and salt restrictions combined with benzoic acid therapy is given, along with the penicillin dosage for 3 patients having subacute bacterial endocarditis, for 2 having gonococcal arthritis, and for 1 with syphilis.

Science News Letter, Washington

*Fight against syphilis. Jane Stafford. 47: 394–397, June 23, 1945.

Fight against syphilis.—Stafford, reporting on the application in Birmingham, Ala., of the State law requiring serologic tests for syphilis, called it "the pioneer model city for penicillin's mass attack on syphilis and gonorrhea."

The State law (Act 529, General Acts of Alabama, 1943) provides that all persons between the ages of 14 and 50 shall have their blood examined for syphilis by an approved test and that persons who have syphilis must be treated either by their physician or free through the State Health Department.

This law presented an unusual opportunity to learn what could be done by a mass attack on venereal disease. It may point the way for other communities to wage more effective war against syphilis and gonorrhea. Faced with the task of making blood tests on the 300,000 inhabitants of Birmingham and surrounding Jefferson County, State and local health authorities turned to the United States Public Health Service for aid. Medical officers, serologists, information specialists and administrative workers were assigned to the State. The campaign was preceded by vigorous and city-wide educational publicity using hundreds of posters, billboards, cards in every street car, radio, motion pictures, and newspaper advertisements and news stories.

Three hospitals were set up for free rapid treatment of syphilis. Gonorrhea patients were referred to private physicians or outpatient clinics. The "world's largest blood-testing laboratory" was installed within 8 days, equipped and staffed to make 20,000 blood tests a day.

Blood collecting stations were located in churches or in other convenient neighborhood buildings. From early morning until about seven in the evening, men and women, and girls and boys over 14 years, lined up before teams of clerks who took names, addresses, phone numbers and ages, and gave each person a card and a glass tube similarly numbered.

After the blood was taken by a nurse, it was sent to the laboratory for testing, and the owner kept his card.

Duplicates of these cards were sent to a tabulating center where they were checked with OPA records to make sure that no one was missed. The ill were permitted to have their physicians collect their blood sample.

All reports were checked against health department records to eliminate those known already under treatment for syphilis. Within 48 hours, usually, a report was received on the laboratory findings. For negative tests the record was dropped. Persons who did not hear from the health department within 72 hours knew that the report on their blood was negative. Positive reports were correlated with the address cards and by phone call or personal visit by investigators. The patient was asked to report for a second blood test and examination at a secondary testing station. Any persons suspecting they had gonorrhea were referred to these stations.

Four-hour penicillin treatment for gonorrhea was given at health department clinics, or by the patient's doctor, using free penicillin. Persons in whom the presence of syphilis was confirmed by the second test were referred to 1 of the 3 treatment centers. There they received careful physical examination, including a spinal fluid test. For primary, secondary, and early latent syphilis, injections of penicillin were given every 3 hours, day and night, for 9 days. In addition, they received an injection of an arsenical drug every other day and of bismuth on the first, fifth, and ninth days.

The author comments on the cooperative spirit shown by the residents of the community. Although the law requires the blood tests, no one yet has had to be forced to go for either blood test or treatment.

Social Hyg. News, Albany

May Act. News Item. 20: 2, June 1945.

Social Protection—a summing up. News Item. 20: 2–4, July 1945.

South. M. J., Birmingham

The use and abuse of sulfonamides in the treatment of skin diseases. Norman Tobias. 38: 467–470, July 1945.

U. S. Nav. M. Bull., Washington

Gonorrheal ophthalmia (treated with penicillin). Arno E. Town. 44: 387–388, Feb. 1945.

Virginia M. Monthly, Richmond

Penicillin therapy of venereal disease. Statement. Kenneth N. Byrne. 72: 302, July 1945.

Wisconsin State Board of Health Bull., Madison

Syphilis and gonorrhea in industry. Milton Trautmann. 7: 15–18, Apr.–June 1945.

Cases of Syphilis and Gonorrhea Reported for First Time in States, Territories and Possessions for first 6 months of 1945

Area	Syphilis										Gonorrhea	
	Total [1]		Primary and secondary		Early latent		Late and late latent		Congenital			
	June	Jan.-June	June	Jan.-June	June	Jan.-June	June	Jan.-June	June	Jan.-June	June	Jan.-June
Alabama	955	5,222	130	718	190	1,126	161	1,160	42	165	1,347	3,892
Arizona....	109	791	25	218	31	208	42	313	11	52	63	561
Arkansas...	1,294	8,848	394	2,658	500	3,092	329	2,550	47	311	653	4,035
California..	2,609	16,343	426	2,714	645	4,297	1,381	8,000	65	411	2,141	13,135
Colorado...	170	1,274	44	326	33	314	84	587	9	48	191	1,099
Connecticut	171	1,100	27	151	39	390	63	370	8	33	127	745
Delaware...	86	212	6	59	13	69	5	57	3	15	24	85
Dist. of Col.	236	1,860	59	408	69	556	89	777	7	55	528	2,969
Florida.....	1,013	7,873	113	1,216	540	3,354	259	2,951	44	216	999	6,464
Georgia....	907	5,588	227	1,473	368	2,169	281	1,753	31	180	874	4,572
Idaho......	58	339	16	65	9	78	30	158	3	17	64	256
Illinois.....	1,910	11,457	308	1,909	465	2,792	1,086	6,430	51	326	1,970	10,767
Indiana....	421	3,315	97	604	42	421	150	1,147	17	86	227	1,200
Iowa......	113	685	29	152	28	201	41	259	6	30	166	1,132
Kansas.....	177	1,220	44	245	32	255	87	664	14	56	164	894
Kentucky...	382	2,446	127	745	109	608	96	730	20	106	497	2,832
Louisiana...	999	5,680	231	1,264	270	1,531	266	1,365	41	357	982	5,128
Maine......	48	361	15	72	14	71	15	159	2	26	83	503
Maryland..	1,180	6,106	177	883	294	1,316	308	1,718	22	126	534	2,644
Mass.......	316	1,991	73	404	(2)	(2)	226	1,478	17	109	294	1,808
Michigan...	1,279	8,289	234	1,632	363	2,453	465	3,006	28	170	936	5,490
Minnesota..	112	652	15	104	15	103	71	386	7	24	224	1,081
Mississippi..	1,997	10,623	615	3,327	556	3,532	726	3,223	100	471	2,665	15,156
Missouri...	795	4,642	176	1,060	232	1,420	316	1,813	33	184	874	3,728
Montana...	39	248	6	45	4	20	16	69	3	16	32	144
Nebraska...	82	(3)	21	(3)	26	(3)	33	(3)	1	(3)	137	(3)
Nevada....	66	223	7	40	5	11	35	97	0	4	71	367
New Hamp.	30	208	4	28	1	33	22	127	3	14	33	148
New Jersey.	696	4,067	95	581	248	1,155	312	2,139	32	154	339	2,134
New Mexico	139	1,018	36	197	36	310	58	439	9	72	101	758
New York..	2,524	16,053	466	3,217	587	3,582	1,369	8,714	85	453	[4]1,408	[4]8,056
No. Carolina	809	4,300	254	1,506	325	1,558	180	999	50	194	911	4,397
No. Dakota.	12	110	2	19	5	22	3	44	1	6	48	203
Ohio.......	1,929	10,118	411	2,234	472	2,714	926	4,727	68	321	492	2,716
Oklahoma..	494	3,445	79	597	145	1,035	159	1,037	19	139	645	4,951
Oregon.....	107	812	31	208	15	113	57	449	2	24	178	1,158
Pennsylvania	1,023	5,537	187	968	374	2,157	382	1,912	60	272	[5]159	[5]930
Rhode Island	66	459	15	90	6	46	33	254	1	14	30	244
So. Carolina.	573	3,722	190	1,201	182	1,127	144	1,075	36	206	595	3,364
So. Dakota.	36	233	5	47	7	56	20	112	4	16	38	225
Tennessee..	1,469	6,402	252	1,250	681	2,698	504	2,257	25	174	1,886	7,652
Texas......	979	6,992	299	1,903	407	3,066	217	1,476	31	313	1,164	8,198
Utah.......	66	266	13	53	15	73	36	138	2	9	57	289
Vermont...	16	89	1	10	4	22	8	33	2	10	27	145
Virginia[6]....	......	......	......	......	......	......	......	......	......	......	......	......
Washington.	273	1,725	47	351	58	444	115	741	7	44	342	2,350
West Virginia	261	1,754	109	825	62	432	81	443	8	50	358	2,132
Wisconsin..	221	922	43	171	0	3	178	740	0	8	102	527
Wyoming...	37	222	7	48	12	69	12	66	1	2	21	94
Total United States....	29,234	175,842	6,188	37,996	8,534	51,102	11,477	69,141	1,078	6,089	25,801	141,358
Alaska.....	24	83	2	18	6	17	1	10	0	1	37	228
Canal Zone.	144	422	4	37	42	101	91	250	2	6	85	421
Hawaii.....	41	242	1	13	0	23	35	184	5	18	31	193
Puerto Rico.	698	4,622	92	544	242	1,547	167	1,315	192	1,170	647	3,659
Virgin Isles.	36	118	8	29	16	69	10	17	2	3	14	70
Grand total	30,177	181,329	6,295	38,637	8,840	52,859	11,781	70,917	1,279	7,287	26,615	145,929

[1] Includes "Not stated."
[2] Included in "Late and late latent."
[3] Data not available for May.
[4] New York City only.
[5] Philadelphia and Pittsburgh only.
[6] No report for June.

☆ U. S. GOVERNMENT PRINTING OFFICE: 1945—664944

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DOCUMENTS SECTION

The JOURNAL *of* VENEREAL DISEASE INFORMATION

(*Formerly* VENEREAL DISEASE INFORMATION)

Volume 26 November 1945 Number 11

EDITORIAL 237

ORIGINAL ARTICLES

Treatment of Granuloma Inguinale with Diramin: A New Antimonial 238

Robert B. Greenblatt, *Surgeon (R)*
Austin V. Deibert, *Senior Surgeon*
Samuel Fisher, M. D.
William J. Clough, *Passed Assistant Surgeon (R)*

Comparison of Gonococcus Cultures Read at 24 and 48 Hours . . 239

Jean Johnston, A.B., M.A.

The Treatment of Gonorrhea with Penicillin During the Incubation Period or Early Phase of Syphilis. A Review 241

Allen E. Walker, *Passed Assistant Surgeon (R)*
Robert L. Barton, *Passed Assistant Surgeon (R)*

CURRENT LITERATURE 244

Federal Security Agency

UNITED STATES PUBLIC HEALTH SERVICE

FEDERAL SECURITY AGENCY

UNITED STATES PUBLIC HEALTH SERVICE

THOMAS PARRAN, *Surgeon General*

Editor: J. R. HELLER, Jr., *Medical Director*
Chief, Venereal Disease Division

Approved by the Director, Bureau of the Budget, as required
by Rule 42, of the Joint Committee

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UNITED STATES GOVERNMENT PRINTING OFFICE: WASHINGTON: 1945

For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C
Price 10 cents. Subscription price, 75 cents a year

Editorial

Syphilis, as the most dramatic of the venereal diseases, has taken undue ecedence in the public mind. However, it must not be forgotten that the ntrol of the other venereal diseases is far from a solved problem. Research being conducted both in their treatment and in their diagnosis. The present ue presents a paper outlining the treatment of granuloma inguinale with a w drug. With the development of so many new antibiotic and chemo- erapeutic agents, it seems likely that more effective specific treatment may found for this disease.

The diagnosis of gonorrhea has become much more exact in the last several ars. The culture method of diagnosis is more widespread, and in several alities technics whereby cultures may be mailed to a central laboratory have en perfected. One of the drawbacks has always been the slow growth of ltures and consequent delay in diagnosis. However, Johnston has found at in reading cultures at least as good results can be obtained at the end of hours as after 48 hours, thus making possible the speeding up of diagnosis this method and the early institution of therapy.

One of the chief difficulties that has been encountered in the penicillin atment of gonorrhea has been the masking of early syphilis by small doses penicillin. The curative doses for gonorrhea are far from adequate for philis, and in many cases such treatment for gonorrhea has been followed a recurrence of syphilis. All physicians and clinicians engaged in the treat- ent of gonorrhea should be extremely careful both in examining the patient ien first observed for the possibility of syphilis, and in following up all cases gonorrhea treated with penicillin in order that both the individual and the mmunity may be protected from infection with syphilis.

—The Editors

Treatment of Granuloma Inguinale with Diramin

A New Antimonial

Robert B. Greenblatt, M.D.,[1] Austin V. Deibert, M.D.,[2] Samuel Fisher, M.D.,[3]
and William J. Clough, M.D.[4]

The usefulness in the treatment of granuloma inguinale of such antimonial preparations as tartar emetic (a tartrated antimony), fuadin (a sodium antimony compound), and anthiomaline (a lithium antimony compound) has been established (*1*). This report deals with our experiences with diramin, a new antimonial, in the therapy of granuloma inguinale. Paggi and Hull (*2*) used diramin in treating successfully a patient with extensive granuloma inguinale complicated by metastatic lesions and subcutaneous abscesses.

Diramin is an aqueous solution of the reaction mixture resulting from the reaction between antimony catechol and triisoporopanolamine in the presence of propylene glycol. It contains 8.5 mg. antimony per cubic centimeter. The solution is colorless when first prepared but soon develops a faint pink color. Otherwise, the solution appears to be stable. The material is supplied in ampules containing 2 cc., each containing 8.17 mg. per cubic centimeter of antimony, and in 10 cc. rubber-diaphragm-capped vials, each cubic centimeter of which contains 8.32 mg. of antimony. Diramin should be given intravaneously and may be given in 2 cc. amounts 3 times per week without evidence of untoward side reactions. When given intramuscularly, pain and local irritation are experienced by the patient. Urine studies and blood counts did not deviate from the original findings in the series of cases under study.

Fourteen patients, all of the Negro race, were treated with diramin. Of these, 10 were female and 4 were male patients. In all except 1, Donovan bodies were demonstrated in smears from the lesions before onset of therapy. In
patient with typical lesions of granulor
inguinale, therapy was inadvertently start
before smears were taken. This patie
was treated by the referring agency befo
admission to the hospital and a diagnos
of granuloma inguinale was previous
established. The medication was given i
travenously in 2 cc. quantities 2 to 5 tim
weekly. The medication was administer
intramuscularly to several patients for
or 3 injections and each claimed that mu
pain resulted from this method. In ea
of the 14 patients, changes were not
ranging from slight improvement to co
plete healing.[5] The size or extent of t
lesions varied and regression of early sm
lesions was observed with as little as 4
7 injections. One patient who was pre
nant had extensive inguinal, vulvar, vagin
and cervical lesions. Remarkable improv
ment was noted after 33 injections (66 c
over a period of 6 weeks. It is a know
fact that cervical and vaginal lesions pr
gress rapidly during pregnancy (*3*).
this patient complete regression of t
cervical and vaginal lesions was noted
the time of dismissal, at the end of 6 wee
of therapy. In general, no untoward effe
were noted.

Fifteen other patients (8 male and
female) received a course of fuadin eith
before or after a course of diramin thera
This was done to observe relative degre
of effectiveness and it appeared that, co
paratively, diramin was not so effective
fuadin. However, it is only fair to sta
that fuadin was given in 5 cc. amoun
whereas diramin was given in 2
amounts. The variation may have be
due to difference in dosage levels, for 1
of each preparation contains about equ
amounts of antimony. Penicillin was a

This work was done at the Southeastern Medical Center, U. S. Public Health Service, Savannah, Ga.

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[2] Senior Surgeon, U.S.P.H.S.

[3] Formerly Surgeon (R), U.S.P.H.S.

[4] Passed Assistant Surgeon (R), U.S.P.H.S.

[5] Healed is defined as the restoration of
continuity of the skin with involution of
exuberant granulomatous tissue.

nistered to several patients with granu- na inguinale in dosage levels of 10,000 to 000 O.u. every 3 hours for totals vary- ; from 1 to 2 million units over 10- and -day periods without benefit.

It is interesting to observe that of the patients included in the study, 11 had sitive serologic tests for syphilis, and 3 d negative tests, but 1 of these gave a story of adequate therapy for syphilis. the 12 patients who were tested with ei antigen of chick embryo origin (Frei t), 6 were positive and 1 gave a doubtful action. Of these 12 patients, positive re- tions to both chancroid vaccine and Frei tigen were obtained in 5 instances.

Conclusions—Diramin, a new antimonial, as evaluated in the therapy of granuloma guinale. Fourteen patients received dira- in only. Another 15 patients were treated ith a course of diramin, either after or before a course of fuadin in an attempt to observe the degree of responsiveness of lesions to each antimonial. Diramin, when administered intravaneously, was found to be a good, safe preparation to use in the treatment of granuloma inguinale.

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The diramin used in this study was supplied by Parke, Davis & Co. through the courtesy of Dr. E. A. Sharpe.

Comparison of Gonococcus Cultures Read at 24 and 48 Hours

Jean Johnston, A.B., M.A.[1]

Because of the superiority of cultures ver smears, the Venereal Disease Clinic the Department of Public Health, Oak- nd, Calif., employs culture methods almost xclusively in the diagnosis of gonorrhea. mears are used in the case of acute onorrhea in men. According to accepted boratory procedures (*1, 2, 3*), 48 hours the required incubation time for gono- ccus cultures. The cultures "may be spected after 24 hours' incubation, if ecessary, as there is usually sufficient rowth for examination at that time" (*2*). t was desirable, from our standpoint, to ave a final diagnosis in 24 hours. For his reason, a series of duplicate cultures vas made to compare the results of 24- and 48–hour observations. Having run 200 positive cultures, our conclusions are that 24–hour readings are as good as and probably superior to 48–hour readings.

The procedure used in this clinic is as follows: Material for culture is obtained on small sterile swabs and placed in 0.5 cc. of holding fluid composed of equal parts of sterile ascitic fluid and proteose peptone broth. The cultures are held in the ice box until they are plated, an interval which never exceeds 3 hours.

The medium used for plating is Difco dehydrated chocolate agar to which is added 30 percent sterile ascitic fluid (*4*) and tyrothricin (*5*) in a final dilution of 1-50,000. One-half of the plate is streaked with the moist impregnated swab, and material is carried over to the other half of the plate with a sterile loop. The plates are incubated at 37° C. in sealed jars containing 10 percent CO_2.

For this series of duplicate cultures, one plate was streaked, the swabs were put back in the holding tubes and within a

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The author wishes to acknowledge the assistance f Dr. B. L. Zinnamon, Medical Director of the enereal Disease Clinic, Department of Public ealth, Oakland, Calif.

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minute or two the duplicate plate was streaked. In order to eliminate the possibility of the plate streaked first receiving more inoculum, the series was divided into 2 parts. In one-half, the plates streaked first were read at 48 hours, and those streaked second were read at 24 hours. In the second part, the 24–hour plates were streaked first and the 48–hour plates were streaked second. Since the results of the 2 halves of the series were essentially the same, the data are combined to facilitate presentation.

At the end of the incubation period, the plates were flooded with the oxidase reagent, suspicious colonies were picked, stained, and observed under the microscope, and reported "Positive for gram negative diplococci morphologically resembling gonococci." No fermentation tests were run.

When the cultures were read a record of the approximate number of gonococcus colonies and of the approximate number of contaminating colonies was kept, as well as of the size of the colonies. At 24 hours, the gonococcus colonies are invariably small in size. It is advisable to carefully scrutinize in a good light those plates which appear to be negative so as not to miss an occasional colony surrounded by many contaminants.

A total of 448 cultures was run, of which 200 were positive on one or both plates and 248 were negative on both plates. Eighty percent of the positive cultures showed an equal number of gonococcus colonies on both the 24– and 48–hour plates (see table).

Six cultures (3 percent) were positive at 24 hours and negative at 48 hours. An additional 22 cultures (11 percent) showed a marked reduction in the number of gonococcus colonies on the 48–hour plate as compared to the 24–hour plate. These plates without exception showed a large number of contaminants.

As to the number of cultures that required 48 hours' incubation, 2 cases (1 percent) were negative at 24 hours and positive at 48 hours. Ten additional cases (5 percent) showed a greater number of gonococcus colonies on the 48–hour plate than on the plate incubated for only 24 hours. These plates showed a relatively small number of contaminants.

TABLE

	Number	Percent
Equal number of gonococcus colonies on 24– and 48–hour plates	160	80
Greater number of gonococcus colonies on 24–hour plate than on 48–hour plate............	22	11
Greater number of gonococcus colonies on 48–hour plate than on 24–hour plate............	10	5
Positive for gonococcus on 24–hour plate—Negative on 48–hour plate..................	6	3
Negative for gonococcus on 24–hour plate—Positive on 48–hour plate	2	1
Total positive cultures..........	200	100
Negative for gonococcus on both 24– and 48–hour plates......	248	—

In routine gonococcus cultures, most of the positives show many gonococcus colonies and a relatively small number of contaminating colonies. This large group is equally positive at both 24 and 48 hours A small percentage of cultures shows many contaminants and very few gonococcus colonies. It is for this latter group that the 24–hour culture is definitely superior to the 48–hour culture.

On the 24–hour plate the amount of contaminating growth is nowhere nearly so great as on the 48–hour plate, both in the number of such colonies and in the size There are apparently other organisms in the genito-urinary tract that are slower growing than the gonococcus. Thus, if there are only a few gonococci and a large number of other organisms, the chance of recovering them on culture is greater at 24 hours.

In routine gonococcus cultures read at 48 hours, it is fairly common to see plates where the gonococcus colonies grow only on the thinnest portion of the plate, there being no evidence of them on the heavily streaked portion. It is evident that as the number of contaminating organisms increases and the number of gonococc diminishes, the chance of carrying over any gonococci to the thin portion of the plate is reduced and a certain small percentage of positive cultures is lost. In chronic cases where the number of gonococci present in the exudate is small or where material for culture is not obtained the prescribed manner, culture may fail demonstrate their presence. In acute es, no difficulty is encountered in obtain- positive cultures.

A second distinct advantage of 24-hour tures over 48-hour cultures is the micro- pic appearance of the organisms in the ears from 24-hour plates. At 24 hours gonococci show their typical mor- ology, they stain deeply, are uniform in e, and show practically no variation in ape. No one would hesitate to report m as "gram negative diplococci mor- ologically resembling gonococci." On other hand, the organisms from 48-hour ltures as a rule vary considerably from ir typical morphology. Large swollen ls singly or in pairs, faintly staining adow forms, the appearance of an amor- ous gram-negative smudge, and other ypical forms are characteristic of gono- cci after 48 hours' incubation. Even to person familiar with culturing gonococci ese forms are sometimes confusing.

When pure cultures are desired for rmentation tests or other studies, trans- ants from 24-hour cultures practically ver fail to yield a good growth whereas ansplants from 48-hour cultures are often tirely unsuccessful or only a few colonies ow. The reason for this is the fact that e gonococcus under unfavorable con- tions quickly undergoes autolysis and ter 48 hours' incubation many organisms e no longer viable. A comparison of nears from 24- and 48-hour cultures early demonstrates the reason for this fference in viability.

The third advantage is to the clinician. diagnosis can be made 24 hours sooner and the patient started on treatment. It also shortens the period of detention when the patient is under quarantine. In overcrowded jails, hospital wards, and rapid treatment centers it cuts off at least 1 day's hospitalization for each patient being examined or treated for gonorrhea.

Summary—1. In 200 duplicate positive cultures, 99 percent were positive after 24 hours' incubation and 97 percent were positive after 48 hours' incubation.

2. Stained smears from 24-hour gonococcus colonies show organisms resembling in every way the textbook description of gonococci as seen in exudate.

3. A culture report made available in 24 hours instead of 48 hours is advantageous to both the clinician and the patient.

4. In view of the above findings, the reading of gonococcus cultures at 24 hours has been adopted as a routine procedure in this laboratory.

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The Treatment of Gonorrhea with Penicillin During the Incubation Period or Early Phase of Syphilis — A Review

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Penicillin has been found to be a highly fective therapy for gonorrhea. However, experience in treating gonorrhea with penicillin increases, the problem of masking or delaying the development of early signs of syphilis becomes important, since penicillin has been found to be of therapeutic worth in the treatment of syphilis also. The danger lies in the facts that the incubation period of syphilis is considerably longer than that of gonorrhea, and that an appreciably larger dose of penicillin is needed for the effective treatment of syphilis than for gonorrhea. The small doses which are successful in curing gonorrhea may, in the case of a concomitant early syphilis, suppress primary and secondary manifestations but will not prevent recurrences. Inasmuch as individuals are frequently exposed to both diseases simultaneously or may be in the incubation period of syphilis at the time of exposure to gonorrhea, the importance of this problem should be reiterated.

It has been pointed out many times that in cases of syphilis the earlier treatment is started the better the chances of complete cure. Therefore, if recognition and diagnosis of syphilis are delayed by penicillin treatment for coexisting gonorrhea, the ultimate chances for recovery are decreased. In the presence of a penile ulcer, generalized or localized lymphadenopathy, or a skin eruption suspected of being syphilitic, the use of penicillin should be withheld until, if possible, a diagnosis of syphilis can be either established or eliminated. Physical examination of gonorrhea patients must be thorough since, should an unsuspected or concealed chancre or genital lesion be uncovered after the institution of penicillin therapy, the darkfield examination will in all probability be negative, and thus the opportunity for treatment in the earliest phase of the disease be lost. And even though the physical examination may have been completely negative, it is still possible if an alert watch is kept during the treatment of gonorrhea to discover a number of such cases. Any patient showing an undue amount of reaction of any kind to penicillin, or in particular a Herxheimer-like reaction, should be examined at frequent intervals for the possible presence of syphilis. Because of the importance of recognizing the problem and its relative frequency of occurrence, the literature has been reviewed and a compilation of 8 cases, including 1 of our own, is presented.

These seven reports abstracted from t literature are only a few of the ma which have appeared. In several of the the evidence is not entirely conclusive th the patient could not have been infect with syphilis after completion of the trea ment for gonorrhea, but on the other ha there may be a considerable number cases in which truly recurring syphilis r mains symptomless so that the patient never given adequate treatment. In a case there can be no doubt that syphilis not infrequently masked or suppress temporarily by penicillin treatment gonorrhea, and that this problem must recognized and dealt with.

Shafer and Zakon (*1*) reported the ca of a patient who had been treated wi 100,000 units of penicillin for acute gono rhea and who had had at the same time penile papule. The urethral discharge h subsided, the penile lesion had healed, a a Kahn serologic test for syphilis w negative 2 days after treatment. Twen days later the patient noted a recurrence the penile lesion and onset of nocturn headaches. When examined the patient h a secondary eruption and both Kahn a Wassermann serologic reactions were pos tive.

Hailey (*2*) reported a case of a 22-yea old white male with acute gonorrhea and penile lesion. Darkfield examinations we performed 12 times, all negative. Fi Kahn serologic tests for syphilis were r ported negative. When the patient did n respond to sulfonamide therapy, 100,0 units of penicillin were administered, wi good results. Twenty-eight days after a ministration of the penicillin a penile lesi reappeared, and 2 Kahn serologic tes were reported positive. However, dar field examination of material from t lesion was negative.

Canizares (*3*) reported a case of gono rhea receiving 50,000 units of penicillin the same day that a penile lesion was note Three darkfield examinations perform after the administration of penicillin and Kahn serologic test were reported negativ The lesion healed in 2 weeks, but in anoth 4 days relapse occurred. On darkfield e amination, material from the recurrin sion was positive, but the Kahn serologic st was negative.

Carpenter (*4*) reported the case of a 2-year-old male who, 2 days after his last xposure, developed acute gonorrhea and the same time developed a penile lesion. either of these responded to sulfonamide erapy but did respond to 50,000 units of enicillin. One month later the patient eveloped a recurrence of the penile lesion, nd shortly thereafter the Kahn, Kline, nd Wassermann tests for syphilis were ositive on repeated testing.

Boyd, Wagner, and Hewson (*5*) re- orted a case of primary syphilis develop- ng more than 60 days after the last xposure. Following an incubation period f 5 days, the patient developed acute onorrhea which failed to respond to sul- onamide therapy. One month after his xposure he developed a penile lesion, aterial from which was darkfield nega- ive. A Kahn serologic test for syphilis at his time was also negative. Accordingly, 0,000 units of penicillin were administered. reatment resulted in a subsidence of both he gonorrhea and the penile lesion. How- ver, 1 month later the penile lesion re- urred. Material from the lesion at this ime was positive for Treponema pallidum nd a Kahn serologic test was repeatedly ositive.

Ricchiuti (*6*) reported a case which oc- urred in a 22-year-old seaman who de- eloped acute gonorrhea with phimosis. A Kahn serologic test at the time was nega- ive. The patient was given 100,000 units f penicillin. During treatment, a Herx- eimer-like reaction occurred. A dorsal lit operation was performed and a penile esion on the mucosal surface of the repuce was revealed. Material from the esion was negative for Treponema palli- dum and the lesion healed in 9 days. Six- een days after administration of penicillin he Kahn serologic test became repeatedly ositive.

Van Horn and Dakin (*7*) reported a ase occurring in a 28-year-old soldier who vas known to have been exposed to both gonorrhea and syphilis. He developed acute gonorrhea and was given sulfonamide herapy without response. A blood Kahn at this time was negative. He was given 100,000 units of penicillin with subsidence of his symptoms. More than 50 days later the patient developed a penile lesion, the material from which was darkfield positive. The Kahn serologic test for syphilis was still negative.

Following is the case we wish to report. A 30-year-old white male railroad worker was referred to the Gulf Coast Medical Center on May 3, 1944, with the diagnosis of chemoresistant gonorrhea. He stated that 8 days previously he had first noted burning on urination and a purulent urethral discharge. He consulted his local physician and received a course of sulfathiazole and one of sulfadiazine without response. Therefore, he had been referred to the rapid treatment center. Examination at the time of admission revealed a purulent urethritis. No lesions were noted on the genitals.

The patient was given 20,000 Oxford units of sodium penicillin intramuscularly every 3 hours for a total of 80,000 units. Following the third dose of penicillin there was a sharp rise in the patient's temperature to 101° F. with associated malaise.

On the following day the patient called attention to a small papule situated on the left side of the scrotum close to the penoscrotal juncture. He complained of tenderness in both groins. Examination of the scrotal lesion revealed a papule measuring 3 mm. in diameter surrounded by an area of induration measuring 5 mm. in diameter. Darkfield examination was negative on 3 occasions. A serologic test for syphilis was negative on admission and again 5 days later. The urethritis was completely cleared the day following admission, and the patient was dismissed from the center with instructions to report for periodic observation at weekly intervals.

However, the patient did not report until 5 weeks following his release, at which time he presented himself at the clinic stating that 3 days following his release from the center, his scrotal lesion had entirely disappeared. Three weeks later he noted the reappearance of the scrotal lesion, and in 10 days, the lesion had grown in size until it had the diameter of a silver dollar and was very painful.

Examination of the scrotum revealed a giant chancre, 5 cm. in diameter, with a surrounding zone of induration which involved the entire left scrotum. Darkfield examination of material obtained from the lesion was positive. A quantitative serologic test for syphilis was reported as positive, the Kahn titer being 120 units. An examination of the spinal fluid was negative. Examination of the skin revealed a macular erythema of the skin involving face, neck, shoulders, back, chest, and abdomen. There was generalized lymphadenopathy and the patient complained of malaise. The rest of the physical examination was not remarkable.

On June 10, 1944, the patient was started on sodium penicillin therapy. This consisted of an intramuscular injection of 40,000 Oxford units every 3 hours for 60 doses (2,400,000 O.u.). Following the third injection of penicillin, the patient experienced a sharp chill attended by an elevation in temperature to 102° F. The cutaneous lesions previously noted became more prominent during the next 36 hours after which they gradually disappeared and the remaining course was uneventful. On June 19, 1944, the patient was dismissed from the center to be observed at periodic intervals of 1 month.

A serologic test for syphilis taken on Dec. 2, 1944, was reported as negative and the patient did not have any clinical evidence of relapse.

The foregoing cases illustrate the danger both to the individual and to the publi health of unrecognized syphilis in patient treated with penicillin for gonorrhea. I is, therefore, necessary that all patient receiving penicillin treatment for gonorrhe be observed periodically for at least 1 weeks after treatment. Furthermore, if th diagnosis of gonorrhea has been establishe and there is evidence or suspicion of co existing syphilis, penicillin therapy shoul be withheld until a definite diagnosis of th latter disease can, if possible, be establishe or eliminated.

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CURRENT LITERATURE

Note: Abstracts of any article listed below are available on request. In addition, abstracts of all articles concerned with venereal diseases or related subjects which have been published in the better known journals both here and abroad during the last 20 years are in the files. These are open to workers in the field. An asterisk (*) before a title indicates that the article is abstracted below.

AM. J. SYPH., GONOR. & VEN. DIS., ST. LOUIS

Venereal disease control in Europe with particular reference to the Scandinavian countries during World War II. Postwar problems from the point of view of maritir nations. Thorstein Guthe. 29: 381-392, Ju 1945.

*An experiment in venereal disease educati in Negro schools. Charles M. Carpente

Evelyn Rahm, Lester A. Kirkendall and Millard E. Winchester. 29: 392–402, July 1945.

*The transfer of penicillin into the cerebrospinal fluid following parenteral administration. Walsh McDermott and Russell A. Nelson. 29: 403–415, July 1945.

*Experimental syphilis in different species of native American mice. Udo J. Wile and Sture A. M. Johnson. 29: 416–418, July 1945.

*Experimental syphilis in the golden hamster. Udo J. Wile and Sture A. M. Johnson. 29: 418–422, July 1945.

Abducens palsy (with subsequent recovery) following lumbar puncture. Harry M. Robinson, Jr. 29: 422–423, July 1945.

Secondary syphilis following penicillin therapy of gonorrhea. Donald W. Atcheson. 29: 423–425, July 1945.

*The diagnosis of granuloma inguinale made by examination of tissue stained with hematoxylin and eosin. S. H. Polayes and Leonard Williams. 29: 425–427, July 1945.

*The effect of fever on the toxicity of mapharsen for rabbits. Ruth A. Boak, Leslie Dorn and Charles M. Carpenter. 29: 428–431, July 1945.

An experiment in venereal disease edcation in Negro schools.—The authors eport an experimental venereal disease lucation program in Negro schools which cluded surveys of the knowledge possessed by students prior to and following ubjection to venereal disease information. he effectiveness of various methods of nparting such information is shown.

The study was carried out in 3 schools in lynn County, Ga., and in 4 schools in ance County, N. C. A total of 1,119 tudents from the fifth to the twelfth rades was included, ranging in age from 2 to 18 years, and representing 393 males nd 726 females. The procedure carried ut in each school was: A written examnation requesting information on the ause, transmission, treatment, and preention of venereal disease was given to he students as a pretest of their existing nowledge. In some instances the examnation was the "essay type"; in others the multiple choice" type. Teachers were not nformed in advance about the examinaion. From 2 to 6 weeks later the test was epeated unannounced. After the pretest, nformation on venereal diseases was made vailable to the students in one of the following ways. In 4 schools, simply worded posters, briefly outlining the facts about venereal diseases called for in the test, were posted in the lavatories. Teachers were requested not to call attention to them. In 1 school of 32 students, a pamphlet giving facts about syphilis and gonorrhea was distributed to the students. In another school, the posters were distributed individually to the students and a short class discussion was based on the subject; the teacher had no special preparation for the discussion. One school of 26 students was reserved as a control, and the teacher instructed to provide no information.

The pretest revealed a dearth of accurate information concerning venereal diseases on the part of students of junior and senior high school age, the boys possessing more knowledge than the girls. Methods of dissemination, treatment, and prevention were poorly understood by all, but the older students were better informed than the younger children.

This study indicated that simple inexpensive methods of disseminating information on venereal disease to students in Negro schools were effective and resulted in a marked increase in the extent and accuracy of knowledge. The school used as a control group with no information given between tests, showed in final testing an insignificant change with the scores varying from a 7 percent decrease to a 12 percent increase. The use of a pamphlet brought average net gains for the different age groups ranging from 15 to 77 percent, with greatest improvement in the younger age groups. A marked increase in knowledge resulted from information presented in simple form on posters placed in school lavatories or given to students. The gain in information among individual students ranged from 20 to 300 percent, the greatest gain being in the younger age groups. The average net gain in information per pupil ranged from 6.2 to 10.8 percent.

The transfer of penicillin into the cerebrospinal fluid following parenteral administration.—The authors report on a study of the penetration of penicillin into the cerebrospinal fluid of syphilitic patients following intravenous administration.

The subjects for the clinical study were patients with neurosyphilis and infectious syphilis who were receiving penicillin therapy. Determinations were made on a few patients with late latent syphilis and on a few with other infections which involved the central nervous system. The tests for penicillin activity of the cerebrospinal fluids were made by 4 different technics in 3 different laboratories.

Using the dilution technics of bioassay, no penicillin was demonstrable in the cerebrospinal fluids obtained from 70 patients who had received penicillin in various dosages by parenteral routes. The presence of neurosyphilis and, in one instance, tuberculous meningitis did not alter these results.

Approximately 0.02 unit of penicillin was demonstrable in the cerebrospinal fluids of patients who had received one or two intramuscular injections of 300,000 to 500,000 units of penicillin 3 to 4 hours previously.

In order to investigate this failure to demonstrate more than a minute amount of penicillin in the cerebrospinal fluid after systemic administration and to determine whether penicillin is bound to a high degree to certain nondiffusible constituents of plasma such as albumin, observations were made on the distribution of penicillin between human serum and its dialysate in vitro, and serum and ascitic fluid in vivo.

It was found that at concentrations ranging from 0.078 to 1.25 units of penicillin per cubic centimeter of serum, penicillin is diffusible through artificial membranes in vitro and into ascitic fluid in vivo. Thus the failure of the penicillin to appear in the cerebrospinal fluid is not because it is bound to a high degree to nondiffusible elements in the serum.

The interpretation of these findings with respect to the penicillin treatment of neurosyphilis and purulent meningitis is discussed. It is suggested that, as the immediate results from the intramuscular penicillin treatment of syphilitic meningitis and other forms of neurosyphilis are so promising, it is unnecessary to use the intrathecal route for the treatment of these conditions. In contrast, in the treatment purulent meningitis it would seem that the basis of the available information t administration of penicillin by the intr thecal route cannot be abandoned.

Experimental syphilis in differe species of native American mice.—In a experimental study, the authors found th 5 species of native American mice or the subspecies were capable of harboring syphi itic infections after inoculations with th Nichols' strain of Spirochaeta pallida o tained from rabbits.

Forty-one healthy adult mice of 5 di ferent species were placed into separa cages according to sex and species. Th mice were kept in an air-conditioned roo where the temperature was 70° F. The were fed a complete mouse ration in pell form. The testicles of a rabbit havin from 4 to 6 S. pallida of the Nichols' strai per dark field were used for inoculation the mice. The inoculum was prepared b grinding the testicles of the rabbit wit sand in a mortar and adding 25.0 cc. sterile normal saline solution. One-ha cubic centimeter of the resulting emulsio was inoculated intraperitoneally into eac mouse. A rabbit inoculated intratesticu larly with 0.5 cc. of the same material de veloped darkfield positive testicular lesion in 24 days and a positive Kahn reaction 64 units.

Summarizing these experiments, th authors show that emulsions of the poole organs of all 5 species of mice when in oculated intratesticularly into rabbits caused darkfield positive syphilitic testi cular lesions in the rabbits. This infectio was as readily carried by male as by fe male mice. The course of the disease i all species remained unapparent. Dark field examinations performed in every in stance on the pooled mouse materials wer constantly negative. The tissues of nor mal mice used as controls failed to caus syphilitic lesions in rabbits. The rabbit inoculated with material from Peromyscu maniculatus blandus showed the highes serologic response.

All 5 species of native American mic or their subspecies were found to be cap le of harboring syphilitic infections after culations with the Nichols' strain of S. llida obtained from rabbits. Darkfield aminations of all mouse material which oved infectious for rabbits were uniform- negative. In no instance were any philitic changes demonstrable in the in- ulated mice.

Experimental syphilis in the golden mster.—In a study on golden hamsters ricetus auratus Waterhouse), the auth- s report that the brains, testes, and pooled er, spleen, gonads, and hearts of these imals, infected by the intraperitoneal ute with Spirochaeta pallida of the ichols' strain obtained from rabbits, can used to produce experimental syphilis in bbits.

The procedure used in the experiments llows. The swollen syphilitic testicles of rabbit which had been inoculated with the ichols' strain of S. pallida 60 days previ- sly were removed and ground with sand 25.0 cc. of sterile normal saline solution. here was one spirochete per dark field in is emulsion. Three cubic centimeters of is suspension were inoculated intraperi- neally into 6 adult hamsters and intrates- cularly into a nonsyphilitic rabbit which eveloped a syphilitic orchitis within 21 days. t varying intervals from 27 to 81 days the msters were sacrificed by withdrawing e cardiac blood until respiration ceased. pproximately 4.0 cc. of blood were usual- obtained. This blood when tested by e Kahn presumptive and standard reac- ons was negative in every instance. Var- us organs of the hamsters were removed, round with sand in 5.0 cc. of sterile nor- al saline solution and the resulting mulsions were inoculated intratesticularly to nonsyphilitic rabbits.

In the results of these experiments, it as found that the hamster brain alone was apable of causing syphilitic changes in abbits in from 48 to 93 days. The testes aused changes in 37 days. The pooled eart, spleen, liver, and gonads of ham- ters caused changes in rabbits in from 9 to 47 days. The course of the syphilitic nfection in all hamsters was unapparent. yphilis in hamsters seems to run a course similar to that which is found in white mice in that the infection remains unapparent, the darkfield examination of organs is negative, the silver impregnation stain reveals no spirochetes, the hematoxylin eosin stain shows no syphilitic changes, and the Kahn serologic reaction is negative. Control experiments were negative. A suggestion is made that the Nichols' strain of S. pallida may cause a different infection than the Gand strain. The passage of syphilitic infection through the hamsters did not increase the virulence of the infection in rabbits as was noted by the authors.

The diagnosis of granuloma inguinale made by examination of tissue stained with hematoxylin and eosin.—Two cases are cited showing that granuloma inguinale may be diagnosed by examination of biopsy material prepared by the usual routine, formalin-fixed, paraffin section stained with hematoxylin and eosin, thus corroborating the contention of Pund and Greenblatt. This simple method of examination may, in some cases, prove successful where other technics fail.

The effect of fever on the toxicity of mapharsen for rabbits.—In a study to determine the effect of fever on the toxicity of mapharsen for rabbits, the authors found that when mapharsen was injected either before or after physically induced fever, the maximal tolerated dose (M.T.D.) and the minimal lethal dose (M.L.D.) were less than when the drug only was administered.

Studies were undertaken with measurements made of the changes in the M.L.D. and in the M.T.D. of the drug when injected as a single agent and when administered concurrently with fever. The comparisons of the M.T.D. and M.L.D. of mapharsen both in the presence and in the absence of fever were carried out in normal rabbits from 3 to 4 months old and weighing from 1.8 to 2.0 kg. Because previous experiments had indicated that large rabbits had a lower tolerance for mapharsen than small ones, similar observations were made on two groups of the larger rabbits, one, weighing from 2.5 to 2.7 kg. and the other, from 3.2 to 3.6 kg. To obtain a more accurate body weight, food was withheld for approximately 16 hours and was made accessible again 1 hour before the experiment was undertaken. A group of 20 rabbits was used for each experiment and observations were continued for 30 days after treatment.

The M.T.D. and M.L.D. of mapharsen were first determined in the absence of fever. Experiments were then carried out as follows on 5 groups of 20 rabbits each to obtain similar data on the drug in the presence of fever. In 3 groups, weighing from 1.8 to 2.0 kg., from 2.5 to 2.7 kg., and from 3.2 to 3.6 kg., respectively, a single intravenous injection of mapharsen was administered immediately when the rectal temperature was 41.5° C. The fever was maintained at this level for 3 hours. To another group of animals weighing from 1.8 to 2.0 kg., mapharsen was given at the termination of a 3-hour fever at 41.5° C. In a fifth group of the same weight, a fever was maintained at 41.5° C. for 5 hours after the drug was administered.

Only one lot of mapharsen was used throughout the experiment, and in each instance a freshly prepared solution of the drug was injected intravenously in a single dose. Fever was artificially induced by the use of a specially designed cabinet in which carbon filament lamps constituted the source of radiant energy. The M.T.D. of mapharsen was considered to be that amount of the drug which permitted survival of at least 90 percent of the animals; the M.L.D., the amount lethal for a similar percentage.

The conclusions drawn from the experiments are: The maximal tolerated dose of mapharsen for rabbits weighing from 1.8 to 2.0 kg. was determined to be 12 mg. and the minimal lethal dose, 16 mg. per kilogram of body weight. When mapharsen was administered immediately prior to a 3-hour fever at 41.5° C., the M.T.D. was decreased approximately 50 percent, being 6 mg. per kilogram of body weight. The M.L.D. was likewise decreased, being 9 mg. per kilogram of body weight. The M.T.D. of mapharsen employed with fever was 4.5 and 3.5 mg. per kilogram of bo weight, respectively, for 2 groups of ra bits weighing from 2.5 to 2.7 kg. and fro 3.2 to 3.6 kg., which was markedly le than the M.T.D. for the group weighi from 1.8 to 2.0 kg. The M.L.D. remain approximately the same for the thr groups, however. When the duration the fever at 41.5° C. was extended fro 3 to 5 hours, both the M.T.D. and t M.L.D. of mapharsen were decreased.

Ann. Int. Med., Lancaster

Penicillin treatment of sulfonamide-resista gonorrhea: results of 500 cases treated wi 50,000 units of penicillin. Allen I. Jos and Forrest E. Kirshman. 22: 807–81 June 1945.

Gummatous aortic valvulitis: report of ca S. H. Auerhach. 22: 870–876, June 1945.

Ann. Surg., Philadelphia

Stricture of the female urethra with lymph pathia venerea (lymphogranuloma inguinale Robert Tauher. 122: 111-116, July 1945.

Arch. Dermat. & Syph., Chicago

Is penicillin a photosensitizing agent? Orlan Canizares. 52: 17, July 1945.

Granuloma inguinale. Society transactions. A lantic Dermatologic Conference — Feb. 2 1944. Frank J. Eichenlaub. 52: 49, Ju 1945.

Baltimore Health News, Baltimore

New communicable disease control ordinan is enacted. News item. 22: 149–150, Ju 1945.

A valuable handbook on the control of co municable diseases. 22: 154, July 1945.

Brit. J. Ven. Dis., London

Acquired syphilis in children. Three probal cases. R. C. Wofinden. 21: 60–63, June 194

Ambulatory treatment of early syphilitic inf tion with penicillin. T. R. Lloyd Jones a F. Gordon Maitland. 21: 65–75, June 194

The suitability of Kahn antigens for the techn used in citochol reaction. J. H. Nelson a H. Sachs. 21: 78–82, June 1945.

*Investigations in the serodiagnosis of syphil L. Handley Ashken. 21: 84–86, June 194

Subcutaneous fibroid syphilomata. Clinical r ords. A. F. Granger and S. M. Laird. 2 86–87, June 1945.

Diagnosis of syphilis after penicillin treatme for gonorrhea. Clinical records. 21: 87–8 June 1945.

Investigations in the serodiagnosis syphilis.—In a study of the S. S. (rap microscopic) test, as described by Seile Ashken observed in 1,326 cases cros checked by other serologic reactions f the serodiagnosis of syphilis, that t

S. test seems to be a step forward to nore rapid and simple aid to the investition of syphilis.

n the comparative results of the 1,326 es tested, 1,072 were negative by the assermann, Kahn, and the S. S. methods; were positive; 72 were in disagreement.

all cases in which differences were nd, blood investigations were repeated. ny serums were duplicated under different numbers. The antigen used in the S. tests was that described by Rappat and Eichhorn. All tests carried out re made in rotation and no effort was de to select cases. The results have own a marked difference between the hn reaction and the S. S. test, but the S. tests have agreed to within 1 percent th the Wassermann reaction. The peritage difference between these tests is ll under investigation, the S. S. being gular in its results, the Wassermann reion showing some irregularity. The rcentage difference between the Kahn l S. S. tests remained constant through whole period of investigation, at about 5 percent figure.

Twenty-two cases examined as latent or spected cases of syphilis because of a sitive Kahn reaction were found on full estigation to be nonvenereal. The Wasmann and S. S. results were persistent- negative. In 18 of these cases the Kahn erted to a negative reaction in spite of fact that no treatment was given. In remaining 4 cases the Kahn test reined positive; of these cases, 3 exited a tuberculous pyrexia and 1 was ssibly a case of acute rheumatism.

In cases of gonorrhea in which a routine od test for the serodiagnosis of syphilis s taken, 16 cases were returned as Kahn uble plus, S. S. negative. Later, on ler investigation, all these tests (conlled by the Wassermann reaction) were urned as negative.

Whenever a disagreement occurred beeen tests, the S. S. test was found to consistent in its results, whereas both Kahn and Wassermann reactions were ratic in their behavior. This was parularly true in the third and fourth stages the disease.

Four clinical cases are given as examples of the use of the S. S. test.

The author suggests that when the diagnosis of syphilis is supported only by repeated Kahn reactions (the testing of the Wassermann reaction not being easily available) this new test should be used as a controlling factor in the diagnosis.

BRIT. M. J., LONDON

Sulfonamide rashes. An analysis of 500 cases seen in North Africa and Italy. G. A. Grant Peterkin. No. 4409: 1–6, July 7, 1945.

Masking syphilis with penicillin. Correspondence. No. 4412: 133, July 28, 1945.

BULL. NEW YORK ACAD. MED., NEW YORK

The clinical response in general paresis to treatment with penicillin. Edwin J. Doty, Herbert Koteen and Walsh McDermott. 21: 434, Aug. 1945.

Methods of achieving optimum penicillin blood levels including the use of enhancing agents such as para-aminohippuric acid. Leo Loewe, Philip Rosenblatt and Erna Alture-Werber. 21: 444, Aug. 1945.

BULL. U. S. ARMY M. DEPT., CARLISLE BARRACKS

Herxheimer syndrome following penicillin in unsuspected syphilis. Apparatus and clinical notes. Franz K. Bauer. 4: 239–241, Aug. 1945.

CALIFORNIA & WEST. MED., SAN FRANCISCO

*Venereal disease clinics. Statistical report (May 1, 1944 through Apr. 30, 1945). San Francisco Department of Public Health. J. C. Geiger. 63: 42–43, July 1945.

Venereal disease clinics. Statistical report (May 1, 1944 through Apr. 30, 1945). San Francisco Department of Public Health.—Geiger reports on the venereal disease clinics, San Francisco Department of Public Health, for the period covering May 1, 1944 through Apr. 30, 1945.

A total of 1,559 patients was under treatment for gonorrhea. All patients with gonorrhea were treated with sulfonamide; those failing to respond to this medication were given penicillin. It is estimated that approximately 35 to 40 percent of the patients with gonorrhea treated within the last year on sulfonamide medication have failed to respond satisfactorily. Of all the patients with gonorrhea at the San Francisco City Clinic who were given penicillin treatment of from 50,000 units to 200,000 units, 17 percent failed. Since October 1944, all sulfonamide resistant gonorrhea patients have been given 200,000 units of penicillin. Among these patients there has been a 15 percent failure rate. There was no significant difference in failure rate between the sexes. There was opportunity to treat 53 patients with penicillin in oil, with a 4 percent failure rate. However, this should not be considered at all significant because the sample is entirely too small and the observation period is not of prolonged duration.

A total of 1,241 patients was under treatment for syphilis during the period reported. The San Francisco City Clinic is not treating syphilis patients with penicillin. Unfortunately, the use of penicillin in the treatment of syphilis has become markedly confused, each investigator more or less using the dosage he arbitrarily chooses, and the majority of them combining penicillin with various amounts of arsenicals and heavy metal. This condition is very unfortunate because the medical profession has lost the opportunity of adequately evaluating the therapeutic efficaciousness of penicillin itself in the treatment of syphilis.

Probably the most efficacious method of administration of penicillin will be in beeswax and oil, or some other preparation which delays the absorption of penicillin. It is further observed that it has been necessary to administer sodium penicillin at 2-hour intervals in order to assure the maximum therapeutic value of the medication. Penicillin in oil, it appears, makes it possible to administer penicillin at easy intervals. It is anticipated that when calcium penicillin in beeswax and oil is available, attempts to treat primary and secondary syphilis on an outpatient basis with penicillin will be made. However, attention is directed to the fact that there is not at present information as to whether it is important to maintain a constant blood level of penicillin in the treatment of syphilis or whether alternating periods of high concentration and low concentration are desirable. These questions can only be answered by time.

CANAD. PHARM. J., TORONTO

C. Ph. A. "VD Campaign" successful. Ne item. 78: 625, July 1, 1945.

INDIAN M. GAZ., CALCUTTA

A new manifestation of abriboflavinosis. Lesio of the vulva. Rumstom J. Vakil. 80: 1 Mar. 1945.

Penicillin in the treatment of wounds. E torial. 80: 155–156, Mar. 1945.

J. A. M. A., CHICAGO

Prophylaxis of ophthalmia neonatorum. Quer and minor notes. 128: 985, July 28, 1945.

A means of inducing oliguresis during penic lin administration. Robert Lich, Jr. 12 1161, Aug. 18, 1945.

New dosage forms of penicillin. Statement c cerning certifiable penicillin products, inclu ing recommended indications, dosages a precautions. Chester S. Keefer, Robert Herwick, Walton Van Winkle, Jr., and La rence E. Putnam. 128: 1161–1164, Aug. 1945.

Penicillin in syphilitic and parasyphilitic d eases. Foreign letters. Brazil. 128: 11 Aug. 18, 1945.

J. CLIN. INVESTIGATION, LANCASTER

*Complement fixation in human malaria usi an antigen prepared from the chicken pa site Plasmodium gallinaceum. Stuart Lippincott, Harry H. Gordon, William Hesselbrock and Alexander Marble. 24: 36 371, May 1945.

Complement fixation in human malar using an antigen prepared from t chicken parasite Plasmodium galli aceum. — Complement fixation tests u ing an antigen prepared from the chick parasite Plasmodium gallinaceum were pe formed on 11,367 serums at the Harm General Hospital, Longview, Texas. Serur obtained from 1,000 healthy men gave percent negative results; serums obtain on 5 successive days from 95 men wi febrile illnesses other than malaria r sulted in 96 percent negative results.

Serums obtained from 505 men kno to have had malaria gave 30 percent po tive results.

The Wassermann, Kahn, and malar complement fixation tests were perform on 481 men who were known to ha syphilis and were under treatment. T results showed that 318 Wassermann a 359 Kahn tests were positive, 24 malar complement fixation tests were positi and 8 were anticomplementary. Of t 481 serums from the total group of syphil

(none of whom had neurosyphilis), 93
rcent of the malaria complement fixa-
n tests were negative, 5 percent posi-
e, and 2 percent anticomplementary.

The authors conclude that these results
licate that the complement fixation test
ing an antigen prepared from Plasmodium
llinaceum gives a group reaction of un-
termined sensitivity for the serum of
man beings infected by Plasmodium
vax, but is of no practical value in de-
ting latent malaria or indicating when
patient is cured.

MICHIGAN M. SOC., LANSING

Michigan Rapid Treatment Center. Nelson W. Ryan. 44: 594–597, June 1945.

Sulfonamide resistant gonorrhea. Arthur W. Frisch. 44: 600–603, June 1945.

MT. SINAI HOSP., NEW YORK

The diagnostic difficulties in uncomplicated syphilitic aortitis with a note on roentgenkymography of the aorta. Samuel H. Averbuck. 12: 41–52, May-June 1945.

*The reliability of serologic tests for syphilis. Louis Chargin and Charles R. Rein. 12: 111–115, May-June 1945.

**The reliability of serologic tests for
philis.**—Since the serologic tests for
philis in use today are not truly specific,
e authors list a number of factors which
ould be considered in evaluation of posi-
ve reactions. Certain factors to be kept in
ind are: serologic reactors, type of sero-
gic test employed, type of disease, fre-
uency of performing tests. In the instance
serologic reactors, certain individuals
re more likely to develop false positive
actions than others under identical cir-
umstances, due to some alteration or la-
ility of their seroglobulins. As for the
ype of test, in malaria, for example,
e Hinton test shows a lower incidence
an the Kahn, Kline, or Kolmer tests. On
he other hand, upper respiratory infections
nd immunizations produce fewer false
ositive reactions with the Kolmer comple-
ent fixation test than with the floccula-
on tests. Leprosy and malaria may give
0 to 80 percent false positive reactions
hereas tuberculosis gives only 1 to 3 per-
ent such reactions. It has been found
at the incidence of false positive reactions
directly proportional to the frequency
f performing the tests. The more often
the tests are performed, the higher will be the number of detected false positive reactions. In the vast majority of cases, false positive reactions are of low titer and usually disappear in a relatively short period of time. Although repeated serologic examinations will usually show a gradual decrease in the titer, sometimes they exhibit varying degrees of unaccountable fluctuation. High titer false positive reactions persisting over a long period may occur. In these instances, it is particularly difficult to make a diagnosis. It is a fact that in a small percentage of cases it is impossible to decide whether or not syphilis exists in spite of the most careful and detailed study of the history and the clinical and laboratory data.

J. ROY. ARMY M. CORPS, LONDON

Penicillin assay methods. George D. Lumb and J. M. Wilson. 84: 247–254, June 1945.

Aneurysm (syphilitic) of the common carotid bifurcation treated by double proximal and distal ligature. F. M. Collins. 84: 278–279, June 1945.

J. SOCIAL HYG., NEW YORK

A new sex education home study course for parents. Roy E. Dickerson. 31: 217-219, Apr. 1945.

LANCET, LONDON

*Lymphogranuloma inguinale in the Royal Air Force. C. R. McLaughlin. 1: 807–808, June 30, 1945.

Lymphogranuloma inguinale in the Royal Air Force.—The author presents a series of 50 cases of lymphogranuloma venereum among white airmen in the West Indies.

Lymphogranuloma venereum occurs only in limited areas, but it is a serious problem in parts of West Africa and the West Indies. The 50 cases seen during 2 years in European airmen differ in disease and control in some aspects from the accounts reported by Law and Stammers. The stages of the disease are summarized according to the study of Law and Stammers.

In the 50 cases described, even when clinical diagnosis was clear, the Frei test was often slow in becoming positive, and was sometimes persistently negative; it is possible for the test to become positive during chemotherapy.

Of 26 cases treated with sulfonamides by mouth, 21 responded well. The slow healing of advanced cases was attributed to the disturbance of lymphatic drainage rather than to secondary infection. Surgery was justified in late cases which did not respond to sulfonamides. The technic is described.

OREGON HEALTH BULL., PORTLAND

Treatment center to continue through 1945. News item. 23: 1, Aug. 1, 1945.

PROC. STAFF MEET., MAYO CLIN., ROCHESTER

*Electric shock in the treatment of dementia paralytica. M. C. Petersen. 20: 107-112, Apr. 4, 1945.

Electric shock in the treatment of dementia paralytica.—Petersen, in reviewing recent literature, found only a few reports on electric shock being used in the treatment of dementia paralytica, most of which discouraged this type of treatment.

Since Feb. 4, 1943, 34 patients with dementia paralytica were treated with electric shock at the Rochester State Hospital, 30 being men and 4 women. Sixteen of these were included in a report last year. The number of shocks administered to individual patients varied from 2 to 37. A total of 538 treatments was given to the entire group.

Curare was used in conjunction with the treatment in 18 patients who otherwise could not have been treated safely. The current used in the initial treatment in each case was 500 milliamperes applied for 0.2 second. If a convulsion was not induced, the current was increased by steps up to 650 milliamperes, near the maximal output of the apparatus. If a seizure was not induced by this current, the time of application was lengthened.

Of the 34 patients treated, 20 showed great improvement, 9 only slight, and 5 no improvement. Four who showed slight improvement relapsed, but improved again after a second series of electric shock.

Four cases in which this treatment was employed are given in detail.

In 23 patients, 16 of whom had received no fever or recent intensive antisyphilitic therapy, the cerebrospinal fluid studied at the termination of electric shock treatment showed in most of the cases a shift toward normal.

QUART. BULL. STATE OF LOUISIANA DE OF HEALTH, NEW ORLEANS

Syphilis epidemiological study. W. J. Sandid 36: 3, 4, 17, June 1945.

REV. ARGENT. NORTEAMERICANA DE CIE MED., BUENOS AIRES

Present studies of syphilis treatment. Marc I. Quiroga. 1: 933-934, Mar.-Apr., 1944.

Syphilitic deafness—Audiometric interpretati David Tieffenberg. 1: 1006, Mar.-Apr., 19

TEXAS J. PUB. HEALTH, AUSTIN

Venereal disease control in El Paso. Mauri R. Vinikoff. 4: 23-25, May-June, 1945.

U. S. NAV. M. BULL., WASHINGTON

*Warnings in the use of penicillin. Nichol S. Scarcello. 45: 77-79, July 1945.

*Unitary venereal prophylaxis. K. P. A. Tayl 45: 189-191, July 1945.

*Study of sulfathiazole in calomel ointment a prophylaxis against gonorrhea: Report 10,006 treatments. John B. Kaufman a Ammon B. Litterer. 45: 381-383, Aug. 19

Treatment of gonorrhea with penicillin in Naval dispensary. Joseph F. Ricchiuti a Wilbur B. Brett. 45: 520-523, Sept. 1945.

Warnings in the use of penicillin.- Previously, the author had reported 1 percent cures in 200 patients with go orrhea treated with penicillin. In revie ing an additional 100 consecutive Na hospital admissions for gonorrhea, he fou that 22 patients had received penicill prior to admission. All had either a pe sistent discharge, varying from minor profuse, or a positive prostatic smea Twelve patients had been discharged well. Recurrences and failures to respo to penicillin are definitely on the increa so that the present percentage of cur may eventually be proved much smalle The factor of possible reinfection is n mentioned.

Immediate retreatment with penicillin not advocated, as the author believes th most cases which fail to respond to t optimum dosage usually will not respond added doses. In patients requiring mo than one course of treatment, sufficie time should be allowed to elapse for di charge to cease before administering a other course.

The author concludes that it would see best to treat all gonorrhea patients wi the sulfonamides and obtain the "65- 70-percent initial cures," and then trea

sulfonamide resistant remainder with
nicillin. If this procedure is not practi-
, serologic tests for syphilis at intervals
3, 6, and 12 months on all patients with
norrhea treated with penicillin are rec-
mended.

Unitary venereal prophylaxis.—Taylor
tes that the polyvalent prophylactic com-
und (sulfonamide-mercury compound) he
vocated had been favorably reported by
ute, who recorded its successful use in
consecutive cases aboard ship. During
6-month period in which the sulfona-
de-mercury compound was used, no ve-
real disease infection developed. In the
ne period, a control group using the con-
ntional silver salt and calomel ointment
ophylaxis developed a venereal disease
ection in 12 instances.

Taylor concludes that the compound will
event the development of all venereal
eases if used within the 2-hour period
lowing exposure. He has not encountered
y authentic record of its failure up to
present time.

Briefly, the author reviews recent re-
rts concerning analogous unitary prophy-
tics, citing the findings of Kaufman and
tterer, Zeve and Schneierson, Stedman,
eenblatt and associates, as remarkably
vorable.

This sulfonamide-mercury compound has
en manufactured and dispensed in indi-
lual prophylactic tubes by a commercial
armaceutic company. The original prepa-
ion was too thick, but this has been cor-
ted. The correct 2 percent formula is:

	Gm. or cc.
Oxycyanide of mercury......	0.1
Sulfathiazole powder........	5.0
Gum tragacanth.............	2.0
Water	100.0

The 2 percent tragacanth emulsion if not
tained over 5 minutes is nonirritating,
at least not more irritating than 10 per-
nt argyrol or 2 percent protargol. The
inner preparation, if well shaken before
ed, has not been found to deteriorate or
become irritating after storage for 2½
ars. A 6-week time limit may be placed
on the sulfonamide-mercury emulsion, if
sired.

The time required for prophylaxis is also reduced by this manner. The emulsion should be liberally applied to the genitals and adjacent skin areas before the intraurethral injection is administered. At least 5 minutes' skin contact is required while the urethral instillation is retained. Staining or discoloration of the clothing does not occur.

Study of sulfathiazole in calomel ointment as a prophylaxis against gonorrhea: Report of 10,006 treatments.—The present report of 7,990 prophylactic treatments with sulfathiazole in calomel ointment administered intraurethrally as a prophylaxis against gonorrhea is a sequel to the preliminary study of 2,016 treatments previously discussed.

Similar conditions were observed in the entire 10,006 treatments administered. The ointment employed contained the following:

	Gm. or cc.
Sulfathiazole powder	4 00
Mercurous chloride, mild...	8 00
Wool fat, anhydrous	8 00
Petrolatum, white	8 00

The consistency and melting point of this ointment permit retention intraurethrally for a considerable time. Moreover, the ointment base is stable, remaining unchanged during the course of study.

In all, 10,006 treatments were administered intraurethrally to a selected group of men who had not used any prophylactic measures prior to reporting for treatment. There were 10 alleged failures (gonorrhea) reported in the study. Previous investigators have demonstrated the efficacy of sulfathiazole in calomel ointment as a prophylaxis against chancroid, and that the addition of sulfathiazole to calomel ointment does not minimize the effectiveness of calomel ointment as a prophylaxis against syphilis. The use of this combined sulfathiazole-calomel ointment as a prophylaxis against gonorrhea, chancroid, and syphilis seems feasible.

WISCONSIN M. J., MADISON

Experiences with penicillin therapy at the State of Wisconsin General Hospital. Charles J. Thill and Ovid O. Meyer. 44: 771–779, Aug. 1945.

Cases of Syphilis and Gonorrhea Reported for First Time in States, Territories, an
Possessions for the First 7 Months of 1945

Area	Syphilis										Gonorrhea	
	Total[1]		Primary and secondary		Early latent		Late and late latent		Congenital			
	July	Jan.–July	July	Jan.–July	July	Jan.–July	July	Jan.–July	July	Jan.–July	July	Jan.–July
Alabama...	888	6,110	115	833	247	1,373	281	1,441	15	180	1,192	5,08
Arizona....	103	894	19	237	32	240	43	356	9	61	41	60
Arkansas...	1,148	9,996	325	2,983	408	3,500	337	2,887	52	363	607	4,64
California..	2,081	18,424	345	3,059	526	4,823	1,098	9,098	63	474	2,135	15,27
Colorado...	179	1,453	54	380	44	358	71	657	10	58	182	1,28
Connecticut.	233	1,333	17	168	36	426	161	531	2	35	76	82
Delaware...	18	230	3	62	6	75	5	62	4	19	8	9
D. Columbia	285	2,145	68	476	98	654	94	871	15	70	622	3,59
Florida.....	2,273	10,146	257	1,473	694	4,048	600	3,551	78	294	2,120	8,584
Georgia....	886	6,474	220	1,693	371	2,540	259	2,012	36	216	839	5,411
Idaho......	54	393	18	83	13	91	19	177	1	18	51	307
Illinois.....	1,652	13,109	308	2,217	351	3,143	935	7,365	58	384	2,286	13,05
Indiana....	536	3,851	125	729	36	457	157	1,304	15	101	341	1,541
Iowa.......	100	785	28	180	23	224	36	295	6	36	153	1,28
Kansas.....	196	1,416	39	284	42	297	104	768	11	67	243	1,137
Kentucky..	352	2,798	107	852	102	710	112	842	29	135	540	3,37
Louisiana...	851	6,531	236	1,500	296	1,827	216	1,581	21	378	686	5,814
Maine......	46	407	24	96	4	75	17	176	1	27	78	581
Maryland...	902	7,008	149	1,032	224	1,540	232	1,950	12	138	589	3,23
Mass.......	299	2,290	74	478	—	—	212	1,690	13	122	420	2,22
Michigan...	1,472	9,761	309	1,941	402	2,855	597	3,603	36	206	1,075	6,56
Minnesota..	66	718	11	115	5	108	43	429	3	27	117	1,19
Mississippi..	1,966	12,589	622	3,949	638	4,170	619	3,842	87	558	2,625	17,781
Missouri....	848	5,490	228	1,288	230	1,650	321	2,134	34	218	654	4,382
Montana...	21	269	7	52	2	22	6	75	2	18	33	177
Nebraska...	35	588	5	99	7	159	21	283	—	21	80	637
Nevada....	14	237	8	48	—	11	2	99	—	4	46	413
New Hamp.	25	233	8	36	1	34	16	143	—	14	34	182
New Jersey.	953	5,020	87	668	335	1,490	497	2,636	25	179	457	2,591
New Mexico	182	1,200	35	232	45	355	91	530	11	83	136	894
New York..	2,385	18,438	483	3,700	584	4,166	1,208	9,922	77	530	[2]1,443	[2]9,499
No. Carolina	460	4,760	177	1,683	175	1,733	86	1,085	22	216	727	5,124
No. Dakota.	13	123	2	21	2	24	3	47	—	6	63	266
Ohio.......	1,956	12,074	407	2,641	508	3,222	901	5,628	54	375	474	3,190
Oklahoma..	540	3,985	81	678	112	1,147	116	1,153	20	159	534	5,485
Oregon.....	162	974	39	247	23	136	88	537	9	33	179	1,337
Pennsylvania	716	6,253	147	1,115	323	2,480	205	2,117	32	304	[3]243	[3]1,173
Rhode Island	89	548	26	116	1	47	49	303	3	17	9	253
So. Carolina.	449	4,171	167	1,368	123	1,250	123	1,198	24	230	466	3,830
So. Dakota.	25	258	4	51	6	62	15	127	—	16	62	287
Tennessee..	860	7,262	198	1,448	353	3,051	277	2,534	29	203	1,461	9,113
Texas......	1,095	8,087	295	2,198	471	3,537	253	1,729	55	368	1,329	9,527
Utah.......	38	304	8	61	6	79	22	160	2	11	43	332
Vermont....	6	95	—	10	1	23	5	38	—	10	29	174
Virginia....	646	6,133	163	1,834	271	2,403	184	1,586	25	264	552	4,259
Washington.	298	2,023	41	392	102	546	126	867	6	50	575	2,925
W. Virginia.	312	2,066	164	989	68	500	64	507	12	62	483	2,615
Wisconsin..	190	1,112	37	208	—	3	152	892	1	9	101	628
Wyoming...	29	251	11	59	7	76	9	75	—	2	20	114
Total U.S.	28,933	210,815	6,301	46,062	8,354	61,740	11,088	81,893	1,020	7,369	27,259	172,881
Alaska.....	16	99	5	23	1	18	—	10	—	1	53	281
Canal Zone.	126	548	12	49	41	142	67	317	2	8	68	489
Hawaii.....	49	291	1	14	3	26	40	224	5	23	30	223
Puerto Rico.	595	5,217	52	596	225	1,772	174	1,489	143	1,313	653	4,312
Virgin Isl...	7	125	2	31	1	70	4	21	—	3	9	79
Total U.S. and Possessions	29,726	217,095	6,373	46,775	8,625	63,768	11,373	83,954	1,170	8,717	28,072	178,265

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[1] Includes "not stated."   [2] N. Y. City only.   [3] Philadelphia and Pittsburgh only.

☆ U. S. GOVERNMENT PRINTING OFFICE: 1945—668267

The JOURNAL of VENEREAL DISEASE INFORMATION

(*Formerly* VENEREAL DISEASE INFORMATION)

Volume 26 December 1945 Number 12

Pennsylvania State Library
DOCUMENTS SECTION

EDITORIAL 255

ORIGINAL ARTICLES

U. S. Public Health Service Advisory Committee on Public Education for the Prevention of Venereal Diseases—Report to the Surgeon General 256
H. H. Hazen, *Chairman*

Syphilis Among Civilians During World War II, January 1, 1942 through June 30, 1943 263
Lida J. Usilton, M.A.

CURRENT LITERATURE 266
INDEX 274

Federal Security Agency
UNITED STATES PUBLIC HEALTH SERVICE

L 2 . 9

FEDERAL SECURITY AGENCY

UNITED STATES PUBLIC HEALTH SERVICE

THOMAS PARRAN, *Surgeon General*

Editor: J. R. HELLER, Jr., *Medical Director*
Chief, Venereal Disease Division

Approved by the Director, Bureau of the Budget, as required
by Rule 42, of the Joint Committee

✚

UNITED STATES GOVERNMENT PRINTING OFFICE, WASHINGTON: 1945

For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C
Price 10 cents. Subscription price, 75 cents a year

Health Education and Venereal Disease Control

Health education sometimes resembles guerilla warfare more than it does a oordinated, strategically sound, and consistently vigorous advance toward efinite objectives. Most local and State health departments know the pattern ell. Numerous committees, campaigns, and programs spring up and die own. Sometimes the health officer is consulted; or again he may not learn a particular drive until he reads about it in the papers. Not infrequently, high-powered publicity campaign focuses attention on a relatively unimortant problem while more serious conditions and needs are thrust into the ackground. Sometimes public demands are created for medical and health ervices far beyond the capacity of community resources. Quite often a rogram will have excellent objectives and results, and sometimes the net fect is just plain confusion.

Realizing that health education is an important part of his responsibilities, e health officer may wish to increase his department's efforts in this field. eeking advice, he quickly learns that there are many theories as to what ealth education is and who should be its practitioners.

The graduate health educator will urge one method while the physical lucation expert holds out for another. The public health nurse may contend at subject matter is the most important element of education for health, hile the school official feels that knowledge of teaching methods is paramount. he social worker, the person trained in "community organization," and the ublic relations expert may hold additional and variant viewpoints. The ounty medical society and various voluntary groups will have their own views n the subject.

Exposed constantly to these different claims, it is not surprising that many tate and local health officers have not attempted more vigorously to exercise e leadership in health education which logically, and often by law, is their sponsibility.

Nevertheless, it is obvious from the report of the U. S. Public Health ervice Advisory Committee on Public Education for the Prevention of enereal Diseases published in this issue, that health officers are conscious of eir responsibility and have definite ideas as to the need for better public lucation in official programs for venereal disease control. Furthermore, they cognize the need for better coordination between the educational efforts of ealth departments and those of other community forces engaged in organizing nd executing programs of health publicity, education, and community action.

Appointed by the Surgeon General in 1942, the committee has devoted more an 3 years of study and investigation to the development of general principles hich should govern public education in venereal disease control. It has udied the content of educational materials, the technics for imparting nowledge and motivation to the public, and the best methods for integrating enereal disease education both with other essential elements of the local control program and with community education in other fields of public healt Finally, the committee has sought to discover the most practical means which the various objectives could be translated into actual practice.

Three things stand out in the committee's findings: venereal disease educ tion is a primary responsibility of official health agencies and should conducted by them on an intensive yet sustained basis; wherever possible th education should be coordinated with other health educational programs, t total effort so organized as to include the active participation of many inte ested groups and individuals within the community; there should be co siderable expansion of facilities for training health department personnel wh are to engage in educational, informational, casefinding, and related activitie

The Public Health Service has accepted and incorporated into its offici policy the principles laid down in the advisory committee report. As rapid as possible many of the concrete recommendations of the committee will carried out. A cooperative program with the American Social Hygiene Ass ciation to assist State and local health officers in the development of soci hygiene groups is already under way, and studies are being made of ways a means for increasing the training facilities for personnel who will engage this general field of health department activity.

Through these and other measures it is hoped that the community orga zation, informational and educational aspects of public health will, in t not too distant future, reach a level of performance matching that of publ health medicine, engineering, and nursing.

—THE EDITORS

Report of U. S. Public Health Service Advisory Committee on Public Education for the Prevention of Venereal Diseases, July 18, 1945

I. This report is based largely on the following studies and inquiries:

  A. The report of the Section on Education and Community Action, National Conference on Postwar Venereal Disease Control, St. Louis, Missouri, November 9–11, 1944.[1]

  B. A questionnaire mailed by this Co mittee to the health officers of Sta and large city health departments. Th questionnaire sought reactions to th St. Louis report and asked sever specific questions relating to venere disease education.

  C. Testimony of witnesses at a co mittee meeting held April 17–1 1945. These witnesses presented opi ions of a number of organizations a individuals competent in differe phases of venereal disease control, ed cation, social hygiene, and social pr tection.

U. S. P. H. S. Advisory Committee is composed of: H. H. Hazen, M.D., Chairman; Mrs. Eugene Meyer; William F. Snow, M.D.; George F. Baehr, M.D.; Alphonse M. Schwitalla, S.J.

[1] SNOW, W. F.; HAZEN, H. H.: Report of the Section on Education and Community Action. National Conference on Postwar Venereal Disease Control, St. Louis, Missouri, November 9–11, 1944. J. Social Hyg., 31: 52–61, 1945.

D. The report of this Committee to the Surgeon General dated June 3, 1944, which dealt with the use of radio and motion pictures for conveying information about venereal diseases to the general public.

. As a statement of general principles and philosophy covering the major phases of the total field of public education and community action for venereal disease control, social hygiene, and social protection, the St. Louis report is regarded by this Committee as a comprehensive and thorough study and as the basis for the formation of a program The report of the St. Louis group and other information coming before the Committee reinforce the belief that public education and community action are so closely interwoven as to be inseparable. It is equally obvious that successful control of venereal diseases in the foreseeable future will be impossible without full use of public education and community action, functioning through various types of planned community organization (*1*)

I. The answers received from the questionnaires mailed out by the Committee to State and local health officers reveal the following opinions (*2*):

A. Unanimous demand for greater emphasis on venereal disease and social hygiene education in the control program.

B. A definite belief that venereal disease education efforts should be directed largely to the population groups having the highest incidence. Although the groups were not specified it is obvious that both young people and Negroes are included in the "highest incidence" classification.

A surprising result of the questionnaires was the relatively little attention given to the need for educating patients. Since this need is so obvious to anyone experienced in venereal disease control, it is assumed that the health officers took this for granted, particularly in relation to the preceding question which was whether "greater emphasis" was needed on the educational phases of control.

C. A long-range educational program of sustained intensity received overwhelming endorsement.

D. The health departments need the aid of other agencies, both official and voluntary, in conducting programs of education and community action.

E. A heavy majority of the health officers believes that the intensified long-range venereal disease education program should be conducted as part of an intensified general health education and community organization program. To the Committee this seems significant.

F. There is unanimous belief that the needed type of community health education, including venereal disease education, can best be obtained through the full time work of qualified health education personnel.

G. The majority of health officers believes that this personnel, for adult education, should be provided by or through health departments.

H. The majority of State health officers desires special assistance from the U. S. Public Health Service in training State or locally employed health education personnel. They also believe that the U. S. Public Health Service should assist the States by providing increased advisory services of specialists in health education, information, and community organization.

IV. The information presented to this Committee makes obvious the fact that there is great need for a large increase in the number of trained health education, information, and community organization workers. This need can best be met by:

A. Expanded use of the health education training facilities, as now exist at Yale, the University of Michigan, and the University of North Carolina, and the recruitment and training of more personnel experienced in mass education or "informational" work.

B. Establishment of training facilities for Negro health educators at Howard University, preferably as part of a complete graduate school of public health. Development of new and special facilities for training at a Negro university does not mean that present available facilities should henceforth be denied to Negro workers. Instead, the Committee recommends conscious effort to achieve even greater use by Negroes of these existing facilities concurrently with the development of any new facilities.

C. It is probable that use can be made by health departments of Army and Navy veterans who have had special training and experience in venereal disease education and epidemiology during their service years.

The proposal made by the Venereal Disease Division of the Public Health Service to State health officers in this connection is heartily endorsed. It is suggested that this Division prove the value of the proposal by employing and carefully training a few of these men and assigning them to selected States for a demonstration period.[2]

D. The Committee, therefore, strongly recommends that the U. S. Public Health Service create or expand as rapidly as possible facilities or services for helping the States train health education, information, and community organization personnel and to increase its advisory and consultation services to the States in this special field of public health.

V. The Committee believes that the St. Louis report contains the most valuable suggestions yet existent as regards the needs and technics for community action. The following suggestions are made:

A. It is apparent to this Committee that local health departments must obtain more active and widespread aid for the achievement of the total objective of the venereal disease control process. This aid will be more readily given if the total objective of the venereal disease program is effectively presented to and accepted by social hygiene groups, religious organizations, th professions, official and voluntary agencies concerned with labor, managemen education, et cetera. Even if suc groups are specially interested in som special phase of the control program, t be effective they must be mindful o the phases which are of special interes to the other groups, thus securin necessary community integration.

B. Full approval for local use is give to the statements contained in the St Louis report as to the need for an the method of teaching appropriat facts about venereal diseases and control measures to parents, school children, professional groups includin clergymen, and to patients, "floaters," and the general public.

C. With reference to the active cooperation of the churches in the programs o the health departments, the followin statement is submitted by an official o the Federal Council of Churches o Christ in America. The statement ma form the basis for positive action b church groups in particular regions o localities and merits keen support fro Federal, State, and local health departments. This suggestion reads as follows:

"There are five aspects of the progra of education for the prevention o venereal disease for which churches ca assume a more or less direct responsibility.

"1. Bringing into the open the facts about the high incidence of venereal disease. Churches can encourage and support the efforts of the government health agencies and other community agencies to do this directly and through the media of information such as the press and radio.

"2. Acquainting the public with facts with regard to the legal and medical programs for preventing such diseases and treating infected persons. Churches can encourage and support the spreading of such information.

"3. Arousing the public to the need for a broad program of social improvement directed towards the elimination of the more tangible factors contributory to promiscuity. This would involve such matters as general education, housing, recreation, and income. Churches can support such a program, and in some instances initiate and promote it in cooperation with other community agencies.

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[2] Heller, J. R., Jr.: State and Territorial Health Officers consider the problem of venereal disease control. J. Ven. Dis. Inform., 26: 168–175. Aug. 1945.

"4. Emphasizing the sanctity of marriage and the integrity of the family as indispensable to the well being of the individual and society. Churches have the primary responsibility in this matter and should have the encouragement and support of secular community agencies both governmental and voluntary.

"5. Improving and extending general instruction on sex, always in the spiritual and moral settings of religion. Churches can collaborate with other professional agencies and groups in providing the setting, and in defining and guarding the standards and procedures for such instruction. They can claim, though not exclusively, responsibility for providing such instruction to their own children either directly or through parents.

"In connection with all aspects of such an educational program churches should provide the prerequisite moral imperative of personal and social responsibility."

D. The health officer, as part of his total obligation for developing public education and community action, should make every effort to work with and obtain the cooperation of law enforcement agencies in support of the venereal disease control program.

At both State and local levels the health officer should work conscientiously for uniform observance of laws requiring prenatal and premarital examinations for venereal disease. Where laws or regulations are lacking the health officer should actively seek them through appropriate agencies.

E. This Committee again emphasizes the responsibility of those in charge of local control programs, implied in the use of such mass educational media as the radio and the motion picture. It is urged that the U. S. Public Health Service stimulate the production of films of high artistic, educational, and moral merit suitable for showing not only to classified and selected audiences, more or less homogeneous, but for the general public as well; the script and action to be graded in content, appeal, motivation, and presentation, thus adapting them to sound educational principles to the audiences for which they are intended. It is further recommended that films shown at local movie houses be advertised according to the recommendations made by this Committee in its report to the Surgeon General on June 3, 1944. A similar recommendation is made for the development of radio materials and programs for local use (*3*).

F. The Committee again emphasizes the fact that the local health officer has an official and professional obligation to initiate general health education programs in his community, if none already exist. Where there are established programs, comprehensive in their objectives and medically, socially, and morally justifiable as to content and method, the health officer must be obligated to support and cooperate with them. It should be emphasized that whether the health officer initiates new, or supports existing programs, he is equally responsible for the degree of excellence of all the phases of the program since the lessened excellence of any one phase of the program may decrease the otherwise superior results of the remainder of the program. These obligations of the local health officer for educating the public have an even greater force with respect to venereal disease than they have with reference to other threats to the public health, such as smallpox, typhoid, and other communicable diseases.

The Committee is so strongly convinced concerning these needs for education as an essential part of venereal disease control that it recommends to the U. S. Public Health Service the development, in the regulations governing expenditure of Federal grants-in-aid for venereal disease control, of minimum standards for public and patient education, so that both the individual's and the community's health may be protected.

VI. The Committee strongly urges Federal, State, and local educational efforts to reach the so-called "floater" population made up of persons without established home and family or religious background. Education of these persons concerning the various aspects of venereal disease is essential to prevent infection and for casefinding purposes.

It is believed investigation should be made of the best ways of reaching these groups. Naturally the same principles apply to this group as to the more stabilized ones.

In addition to training and employing more Negro health educators the Committee believes that special study should be given to more effective methods of conveying venereal disease education to both urban and rural Negroes. Such devices as the use of Negro insurance agents to distribute literature should be studied, with the firm understanding that such a procedure might prove dangerous unless properly safeguarded.

VII. The majority of the Committee reiterates its belief that more emphasis must be given by official health agencies and private physicians to providing instruction in personal prophylaxis for persons who obviously need this information but who will not respond to advice on moral or educational methods of prevention.

VIII. It is recommended to Federal, State, and local health departments that every effort be made to bring venereal disease education to industrial groups. Experience gained in the demonstration programs conducted by the American Social Hygiene Association and by several local and State health departments indicates that this is a most economical and effective means of venereal disease education.

MINORITY OPINION

Alphonse M. Schwitalla, S. J.

In endorsing this report and voting for its transmission to the Surgeon General of the Public Health Service with the strong recommendations of the Advisory Committee, I do so with two important reservations: The first, with reference to the endorsement of the production of radio scripts and motion pictures intended for the general public (paragraph V, E), and the second, with reference to "instruction in personal prophylaxis for persons who obviously need this information and who will not respond to advice on moral or educational methods of prevention" (paragraph VII).

1. In my opinion, radio and motion picture scripts cannot be produced according to sound educational principles if they are intended for the general public. It is generally admitted by all the members of the Advisory Committee that to be effective radio and motion picture scripts must be graded "in content, appeal, motivation, and presentation" for classified and selected audiences. What justification can there be for producing pictures or radio scripts "for the general public," that is, for children and adults, the educated and the less well educated alike? What sound educational principle is being followed in such production? The reason for emphasizing this point is that the degree of responsibility "of those in charge of local control programs" is quite different when radio or motion picture appeals for the control of venereal disease are made before general than when they are made before selected audiences.

2. Instruction imparted with the intention of effecting personal prophylactic practice, if by these words is meant contraceptive procedure, can never, in my opinion, be justified, certainly not when it is given by an official health agency, and even if it is given to persons who will not respond to advice on moral or educational methods of prevention.

APPENDIX

1. From the *Report of the Section on lucation and Community Action. National nference on Postwar Venereal Disease ntrol, Nov. 9–11, 1944.* W. F. Snow, .D., *Chairman;* H. H. Hazen, M.D., *cretary.*

“The major part of the fight against philis and gonorrhea must take place in e community, and must be supported and ined by all important elements of comunity life. The local health department primarily responsible for prevention and ntrol of venereal diseases. However, finite responsibility is also borne by local w enforcement, social protection and welre agencies, the medical and allied profesons, and by schools, churches, and civic ganizations. The influence of these varied terests and agencies is most efficient when obilized through a carefully planned proram of cooperative community action.”

* * *

“There are, of course, organizations prest and already at work in many communies whose objectives are synonymous with directly related to venereal disease conol. Social hygiene societies, social protecon committees, wartime health councils, uncils of social agencies, and various spelized health associations are examples. ut in many areas there are no such oups; and sometimes even when they are esent they may be ineffective or unwillg to cooperate. It becomes of paramount nportance, then, that State health departents, the U. S. Public Health Service, the cial Protection Division, and the Amerin Social Hygiene Association, cooperavely promote organization in those comunities where organization is lacking and here the problem is severe.

“The Section on Education and Comunity Action recommends the practice of imulating laymen to study all types of ealth problems for the purpose of develing organized methods for their solution, ten leading to the creation of a lay Comunity Health Council. This may be city- r county-wide in scope depending on the ature of the area; and it may direct its forts toward improving all types of local health conditions, bearing in mind, however, the urgency and importance of the venereal disease problem, and the practical program for their eradication which has now been demonstrated. Where there are several health groups already present they may wish to form a Council to serve as a coordinating as well as a promotional body. Often a civic coordination body already exists and may be persuaded to consider health and venereal disease control measures as an integrated function of the organization.”

* * *

“The value of the generalized health approach, particularly from the long range viewpoint, lies in the greater likelihood that citizen interest and participation can be elicited and maintained, and in the administrative soundness of such procedure. There is a minimum of emotional or prejudicial opposition. Venereal disease, as one of the urgent community problems of our time, must receive its full share of attention from the whole community.

“Because of limited economic, social, and educational opportunities and other conditions which have aided the spread of the venereal diseases widely among members of their race, Negro leaders are most anxious to cooperate actively in national, state, and local control efforts. In many areas some of the most effective preventive and educational work has been accomplished principally because of this cooperation. Therefore, it is recommended that particular attention be given to securing full participation from responsible Negro leaders in all phases of community organization for venereal disease control.”

2. *Results of a questionnaire sent to State and large city health departments by the Advisory Committee.* Due to the fact that some questions were not answered on all returned questionnaires, and that others were answered more than once, some statistical discrepancies were unavoidable in this tabulation.

“1. Do you believe greater emphasis on venereal disease and social hygiene education is needed in the control program? Yes 57; No 1

"2. If answer to above is yes, check one or more of the statements below to indicate where this increase should be concentrated, indicating numerically the relative importance of each:

	First place	*Second place*
a. General public........	13	5
b. Population groups having highest incidence..	16	16
c. Patients	5	5
d. School children.......	9	8
e. Parents	7	4
f. Special and professional groups, interests and agencies in the community, such as police, teachers, welfare agencies, industry, churches, hotel owners, etc......	9	9

"3. What type of program is needed:

a. Medium duration and very intensive.........	6
b. Long range, no special intensity	8
c. Long range and sustained intensity.......	48

"4. Will it be necessary to make extensive use of other agencies and organizations in the community to conduct effectively the type of program desired: Yes 56; No 2

"5. Should the intensified venereal disease and social hygiene program be conducted:

a. As part of the intensified *general* health education and community organization program.	39
b. As a specialized program in venereal disease control, social hygiene, and social protection	15
c. A combination program which begins with venereal disease and develops into a general program......	7

"6. In your area will full time salaried personnel, especially qualified in health education and community organization, be required to conduct the desired program: Yes 57; No 1

"7. If the answer to the above is yes, do you believe this personnel should be provided by or through the health department: Yes 57; No 1

"8. If you favor special educational and community organization effort either for venereal disease control or for general health purposes, what type of assistance would be required from U. S. Public Health Service? (If you should check more than one, indicate numerically the relative importance.)

	First place	*Second place*
a. Assignment of Federally employed personnel	16	2
b. Increased consultation and advisory services by health education and community organization specialists........	14	16
c. Special assistance in training State or locally employed personnel	23	12"

3. *Report to the Surgeon General by the Advisory Committee on Public Education for the Prevention of Venereal Diseases* following a meeting held April 26-27, Washington, D. C., to investigate the desirability of using radio and motion pictures for venereal disease education purposes. Thirty-one national organizations, official and voluntary, interested in various phases of venereal disease control were represented at the meeting and 16 others submitted written statements. Pertinent abstracts from the report follow:

"The Committee is of the opinion that the radio is an acceptable means of disseminating information to the public.

"The Committee believes that the showing of films to selected groups must be utilized extensively.

"The Committee is also of the opinion that the commercial cinema should be utilized to the greatest extent practicable, provided that their programs are safeguarded ainst any films which do not maintain the ghest standards of science, dignity, and tistic merit, and which have had the ap- oval or favorable comment of official alth authorities and of voluntary agen- es representative of family, school, church, d welfare community interests.

"The Committee suggests that any film tended for general motion picture audi- ces should be characterized by the fol- wing points:

"(a) fairly broad coverage of the sub- ct.

"(b) continuity.

"(c) strength in the presentation of moral d ethical values.

"(d) condemnation of promiscuity.

"(e) dramatic value.

"(f) good technical work.

"(g) the use of statistics only when necessary and effective.

"(h) the avoidance of indecent incidents.

"The subject matter of a commercial film dealing with venereal diseases must be stated in advance of showing by at least two of the following methods:

"(a) reviews in the press.

"(b) advertisements in the press.

"(c) appropriate notices at the theater informing the public before entry that the program includes the subject of venereal diseases."

Syphilis Among Civilians During World War II, January 1, 1942, through June 30, 1943

Lida J. Usilton, M.A.

Principal Statistician, Venereal Disease Division
United States Public Health Service

This paper shows that insofar as the in- dence of syphilis is reflected in the occur- nce of positive serologic tests of the blood nong young men, no rise in syphilis rates ok place in the civilian population of the nited States between January 1, 1942 and ine 30, 1943, a period when our war effort as expanding very rapidly. The data nployed were obtained from reports of rologic tests performed on Selective Ser- ce registrants called up for examination iring the period specified.

During this period there were 7,850,000 aminations made by the Selective Service ystem. Of these, there were available for udy blood test reports taken in 27 States. random 20 percent sample was drawn arranging the local draft boards of each these States in numerical order and lecting every fifth board. All duplicate sts were removed from the sample, so that e analysis is based on the reports of 6,640 individuals tested for the first time. abulations were made for each of 6 month time periods by State, age, race, d result of test.

Analysis indicated that among individual States within each of 4 large geographic areas the rates were so similar and the numbers tested so small that no significant differences could be demonstrated. On the other hand when total rates for each of the 4 areas were compared, the differences among them were so great that it did not seem justifiable to combine them to construct a total trend line for the whole country. Charts I, II, III, and IV present graphically for each of the 4 areas, rates for each age from 20 through 25 years during the time period. Time trend lines were fitted by least squares, and those having slopes significantly different from zero, i.e., from the horizontal, are drawn in. Whenever the slope of the fitted line did not differ significantly from zero it is omitted.

In the northeastern States (chart I) the number of Negroes tested was insufficient to establish any trend in the positivity rates during the period. The rates rise slightly for every age except the 21-year-old group, and the average slope for all ages combined

Chart I.—*Northeastern States. Syphilis rates per 1,000 selectees and volunteers examined, showing for each age from 20 through 25 years, the trend during the period January 1942 through June 1943. Based on 38,398 white men tested.*

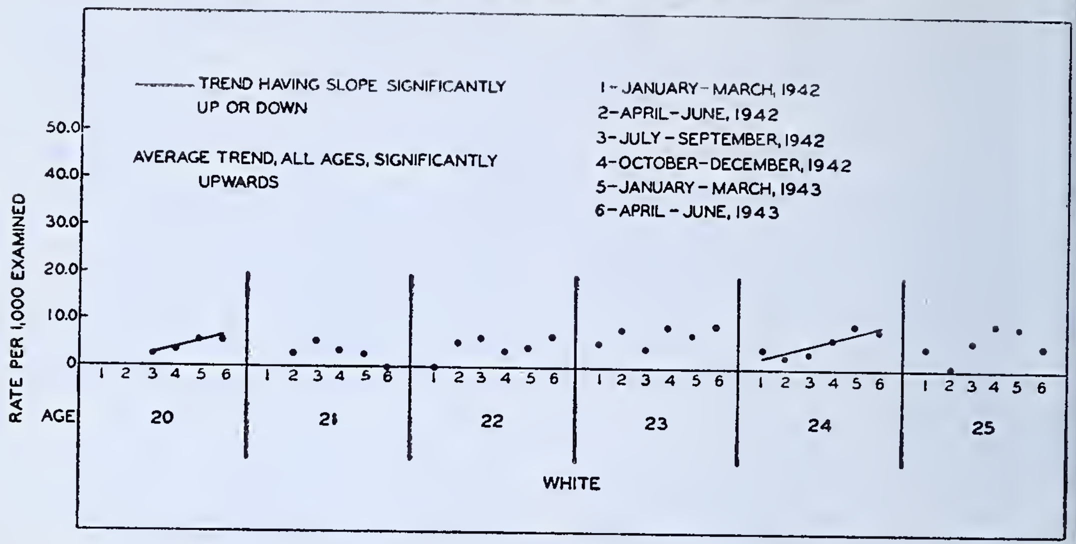


Chart II.—*Southern States. Syphilis rates per 1,000 selectees and volunteers examined, showing for each age from 20 through 25 years, the trend during the period January 1942 through June 1943. Based on 61,125 white men and 26,843 Negro men tested.*

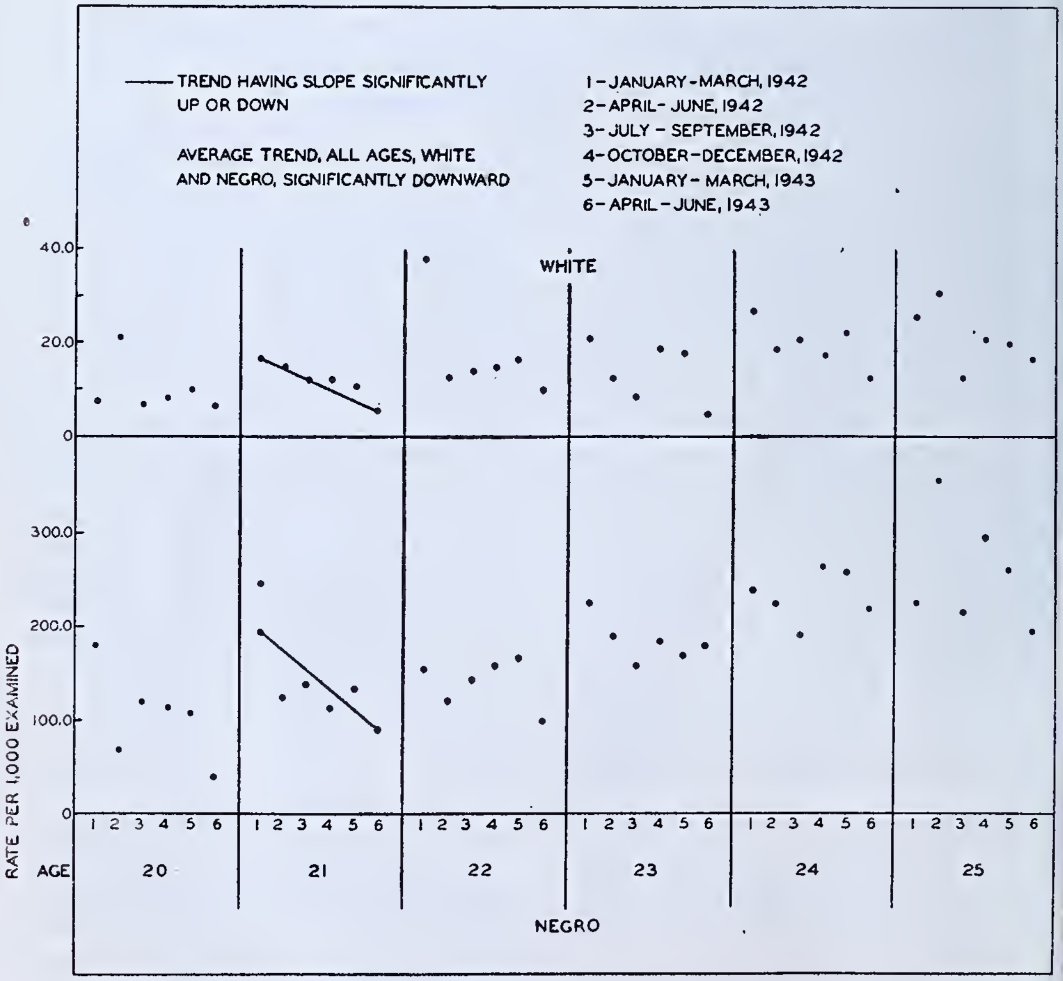


CHART III.—*Midwestern States. Syphilis rates per 1,000 selectees and volunteers examined, showing for each age from 20 through 25 years, the trend during the period January 1942 through June 1943. Based on 49,037 white men and 3,465 Negro men tested.*

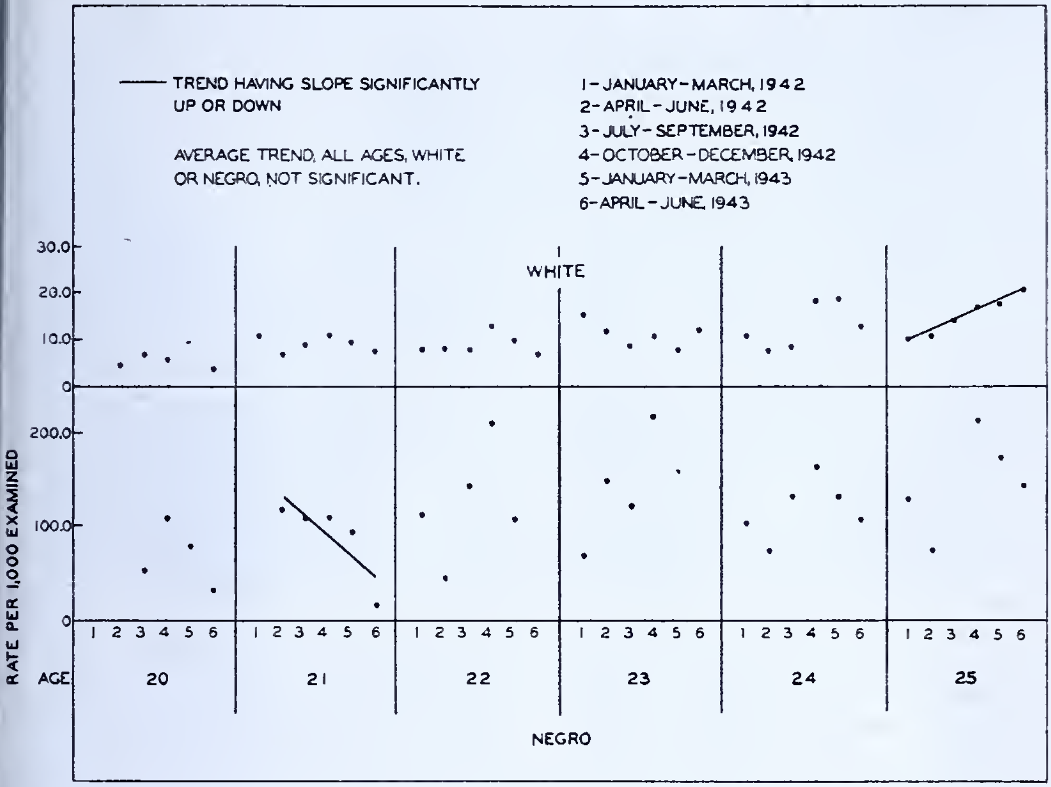
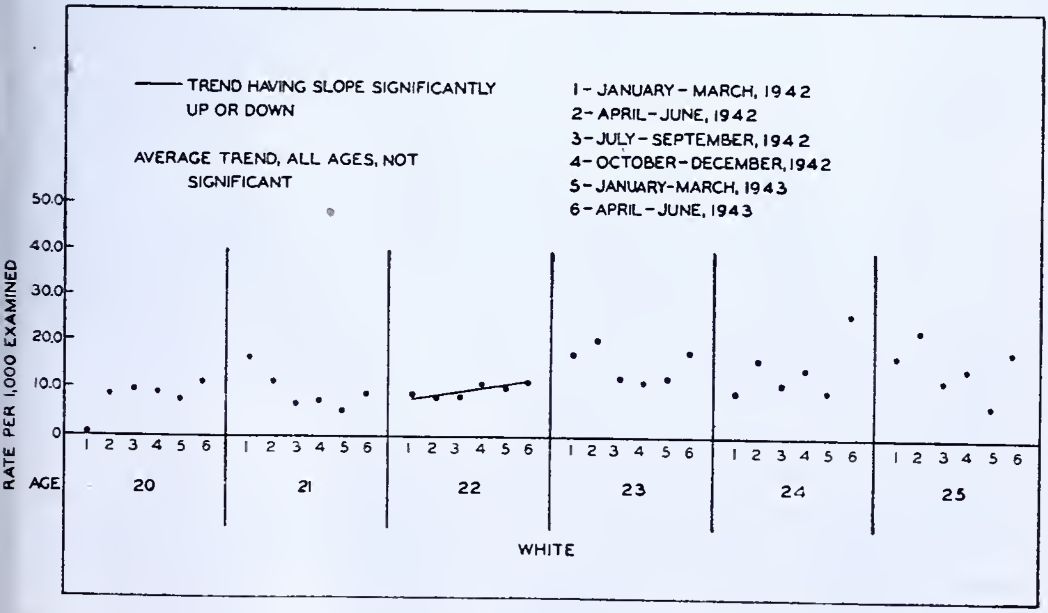


CHART IV.—*Western States. Syphilis rates per 1,000 selectees and volunteers examined, showing for each age from 20 through 25 years, the trend during the period January 1942 through June 1943. Based on 57,472 white men tested.*



is significantly upward, although the rise is not great.

The rates for both white and Negro men in the southern States are shown in chart II. These data are the most reliable of those for any region, both because the sample was large and the positivity rates were relatively high. In every age for both white and Negro men the first rate is higher than the last, and the average trend for all ages is significantly downward in both races. There has clearly been a downward trend in this area.

The sample for the midwestern States shows no significant average trend for all ages (chart III). However, 2 age groups show significant changes when considered separately. Among the white men there was a significant rise in the positivity rates for the 25-year-old group, and among Negroes there was a significant decrease for the 21-year-old group. Such inconsistencies are probably due to the fact that the sample from the areas was relatively small and the positivity rates low.

Among the western States, as was the case in the northwestern area, the data are insufficient for the construction of trend lines for Negroes. The positivity rates for white men in this area are shown in chart IV. The average trend was not significant, in spite of a significant rise among the 22-year-old group, and this sample is probably more stable than that for the midwestern group of States.

Although it was felt that no single trend line could be constructed for the country as a whole, nevertheless it would appear from the foregoing that the war period has been accompanied by no appreciable rise in civilian rates for syphilis. The total trend may be slightly downward. For the reasons indicated, the sample for the southern States may be considered by far the most stable, showing a considerable decline in positivity rates among selectees. And while it is true that there was a slight rise in the rates of the northeastern States, no change could be demonstrated in any direction for the midwestern and western regions. These favorable results may in large part be due to the effective and intensive cooperative joint efforts of civilian and military authorities to control the venereal diseases.

Conclusion.—From an analysis of the results of blood tests taken during examination of men for the draft, it seems probable that from January 1, 1942 through June 30, 1943 in no section of the country was there any great rise in the incidence of syphilis, at least insofar as that incidence is reflected in the occurrence of positive serologic tests of the blood among young men. For the country as a whole there was, if anything, a decrease in the number of syphilis cases detected.

CURRENT LITERATURE

Note: Abstracts of any article listed below are available on request. In addition, abstracts of all articles concerned with venereal diseases or related subjects which have been published in the better known journals both here and abroad during the last 20 years are in the files. These are open to workers in the field. An asterisk (*) before a title indicates that the article is abstracted below.

AM. J. M. TECHNOL., DETROIT

Penicillin. Franklin C. Massey. 2: 169–176, July 1945.

AM. J. OBST. & GYNEC., ST. LOUIS

Sulfonamide and stilbestrol therapy in gonococcal vulvovaginitis. Lucile R. Hac, H. Close Hesseltine, Fred L. Adair and Myrtle B. Crudim. 50: 88–94, July 1945.

Gonorrheal arthritis complicating pregnancy treated with penicillin. Carl Henry Davis. 50: 215–218, Aug. 1945.

AM. J. ORTHODONTICS, ST. LOUIS

Gingival symptom complexes. Richard D. Dean and Marguerite T. Dean. 31: 473–486, Aug. 1945.

AM. J. PUB. HEALTH, NEW YORK

*Does health education prevent venereal disease? The Army's experience with 8,000,000 men. Granville W. Larimore and Thomas H. Sternberg. 35: 799–804, Aug. 1945.

Does health education prevent ve-

ereal disease? The Army's experience ith 8,000,000 men.—The authors be- eve that the Army venereal disease edu- ational program represents, in extent and cope, one of the largest health education rojects ever attempted in the field of reventive medicine. They outline the rograms set up by the Army, used both this country and in the overseas theaters.

The aims of the Army venereal disease lucational program are (1) to impart the individual adequate technical knowl- lge about the venereal diseases and (2) motivate the individual to utilize that nowledge at the time it is needed.

The authors believe that the best single iterion for determining the immediate alue of education in preventing venereal isease in the Army is the extent to which ophylactic facilities and materials are sed. At the present time more than 50 illion individual prophylactic items are re- iired monthly.

M. J. SYPH., GONOR. & VEN. DIS., ST. LOUIS

*Late neurosyphilis in North American Negroes and whites. Walter R. Kirschbaum. 29: 432–446, July 1945.

Treatment of venereal diseases in the European theater of operations. Donald M. Pillsbury. 29: 447–454, July 1945.

*The changing concept of reinfection with syphilis and its applicability as a criterion of cure. Editorial. 29: 474–478, July 1945.

Late neurosyphilis in North American egroes and whites.—In this study the ithor compares clinical and postmortem ndings of a representative group of Negro d white State hospital patients with late eurosyphilis in an appraisal of the inci- ence and the trends of general paresis in e Negro and white population.

The clinical diagnosis of 54 Negro and white patients was established and later erified by postmortem examinations in all atients who died with late neurosyphilis uring a 5-year period. The 54 Negroes cluded 45 patients with general paresis d 9 patients with late cerebrospinal syph- is, predominantly of the meningovascular pe. The white patients consisted of 49 ses of general paresis and 4 cases with meningeal or vascular syphilis of the central nervous system. Among 45 Negro paretic patients there were 33 male and 12 female and the 49 white paretic patients included 38 male and 11 female.

The findings of the Negro and of the white groups are dealt with separately for comparison. The typical and atypical features, as compiled from the histories, are arranged in the same order in both groups.

The author found that general paresis occurs, according to the syphilis ratio, as frequently in the Negro as in the white population in this country. The average age of onset was younger in the Negro owing to earlier infection. The incidence of general paresis appeared to be slightly higher in Negro women than in white women. Stationary general paresis in white persons tended to be more chronic and prolonged. More atypical general paresis cases were observed in the Negro due to concomitant vascular lesions.

Tabes dorsalis in all its varieties, including optic atrophy, occurring previously or developing in the course of general paresis, did not differ from that in white patients among the Negro psychiatric material. Only large city hospital statistics can settle the question of its frequency among the general Negro population. Death statistics which help much to determine the incidence of general paresis involved cannot cover the various forms and stages of tabes.

Organic psychosis due to meningovascular syphilis combined with other disease is more frequently found in Negroes.

Anatomic and serologic results are described in both racial groups. A high percentage, 44 percent, of syphilitic aortitis was found in both races. At least 5 percent of general paresis cases showed a negative blood serologic test at the onset, while the spinal fluid was strongly positive at the same time. The opposite, negative serologic tests in the spinal fluid and positive blood reactions, have been very rare findings in untreated patients.

This study deals only with the Negro population in the United States. The rare incidence of late neurosyphilis among other Negro stocks is acknowledged.

The changing concept of reinfection with syphilis and its applicability as a criterion of cure. Editorial.—The premise of this editorial is that in view of the five- to tenfold increase of cases acceptable as supposed reinfections, the problem of reinfection, superinfection, and relapse is assuming much more practical importance than it had before the advent of the intensive arsenotherapy and penicillin therapy of early syphilis.

The questions to be considered are: Can these cases be adequately differentiated from relapse; if so, do they actually represent cure of the first infection? The editor discusses pertinent factors in the light of currently available information concerning syphilis in man, under present accepted criteria for reinfection. The editor concludes that there can be very little positive evidence on which to base a diagnosis of reinfection. Also, reinfection as a criterion of cure is discarded.

The importance of this discussion is applicable not to the individual patient, since whether he is reinfected, is superinfected, or relapses, he must be retreated, but to the utilization of the concept of reinfection in determination of the efficacy of one treatment plan as compared with another. It is agreed that pending further knowledge, all supposed reinfection must continue to be considered as relapses.

ARCH. OPHTH., CHICAGO

*Gonorrheal syndrome without gonorrhea. Reiter's disease. Robert L. Lucas and Harry Weiss. 34: 97–98, Aug. 1945.

Gonorrheal syndrome without gonorrhea. Reiter's disease.—A description is given of Reiter's disease, a syndrome urethritis, arthritis, conjunctivitis, and cutaneous lesions, closely paralleling, but not caused by, gonococcus infection. Forty-seven cases of this disease, with only 1 death, have been reported since 1912.

Clinically, Reiter's disease cannot be distinguished from a gonorrheal infection. The only means of distinguishing it are by bacteriologic studies and by its failure to respond to sulfadiazine and penicillin. The course of the disease is usually milder, moreover, and is followed by complete recovery.

In all cases, including a case history o the disease presented by the authors, urethritis, often accompanied by cystitis, i reported similar to the usual gonorrhea infection. Conjunctivitis is also present in an acute and purulent form, often complicated by keratitis and iritis. Full recovery of vision is generally the rule, however. The severest complaint in the disease, chronic arthritis, is found in severa joints, and though it is the most persisten of the symptoms, it usually disappears i from 1 to 5 months, leaving no stiffness Cutaneous lesions have appeared in 40 percent of the cases and are similar to thos seen in keratosis blenorrhagica.

Because of the close parallel to gonorrheal infection, Reiter's disease can be differentiated only by repeatedly negativ smears and by following the course of th disease through its later stages. The caus of the syndrome as well as specific therap for it remain unknown.

ARCH. PEDIAT., NEW YORK

The effect on the fetus of diseases of the mothe during pregnancy. Christopher Bull. 62: 289-299, July 1945.

ARCH. PHYS. MED., CHICAGO

*Artificial fever-chemotherapy. V. Inductio period. R. M. Craig, F. M. Buroker and G X. Schwemlein. 26: 582–589, Sept. 1945.

Artificial fever-chemotherapy. V. Induction period.—The authors give detailed instructions for the induction o therapeutic fever as an adjuvant measur in the treatment of syphilis and gonorrhea The immediate preparation of the feve cabinet and of the patient, as well as technics for the induction of therapeutic fever are described.

Preparation of the fever cabinet, including placement of blankets, water bottle, and towels, must be complete before the patien is admitted, the cabinet being considered ready at a temperature of 120° F. The patient, prior to admission to the cabinet has received adequate prefever treatment and now has his blood pressure taken, whil blood specimens are obtained for immediat pretreatment serologic tests for syphilis, and for determining the specific gravity o the plasma.

Great care is stressed in the use of the ctal indicating thermometer during the duction period, which is defined as the ne required to elevate the patient's rectal nperature within 0.2° of the required aintenance level. The weekly standard- ation of the thermometer in a constant nperature mercury bath is mandatory for e safety of the patient. When the body nperature is within 1.0° (F.) of the de- ed level, a clinical thermometer is sub- tuted for 2 minutes as a check on the ac- racy of the rectal indicating thermometer. ie patient, as his temperature rises, is en- uraged to drink a cool 0.3 percent sodium loride solution, and supplied with oxy- n by means of a latex catheter placed in e of the nasal passages.

The method of correlating the reduction air temperature as the body tempera- e becomes elevated must be developed lividually for each patient by the nurse- chnician, who must also exercise care in e recordings, every 15 minutes, of the tient's body temperature, pulse rate, and e air temperature of the cabinet. Con- nt watchfulness must also be maintained cardiovascular or respiratory complica- ns during the induction period.

l. Asoc. Méd. de Puerto Rico, Santurce

Roseola infantum. R. Fernandez Marchante. 37: 248, July 1945.

it. M. J., London

A case of third-generation syphilis. C. J. V. Helliwell. Medical Memoranda. No. 4414: 186, Aug. 11, 1945.

A case of third-generation syphilis.— elliwell presents a case of third genera- n syphilis in a boy aged 14.

The patient had a typical tabetic gait, th spasticity of the lower legs, and slight nsory loss in both feet. The Wasser- nn reaction was strongly positive.

The patient was the middle of 3 children, e others showing no sign of the disease. ne patient was disinterested in life, could ad and write with effort, could not dress nself or care for himself unaided. He d never been able to walk properly.

The mother showed a positive Wasser- nn test. She avowed she had never had syphilis, nor any treatment; but both parents had died as a result of syphilis. She showed no important clinical signs of the disease. The father had been a blood donor for more than 25 years, and it is assumed, had a negative Wassermann test all that time and during the 20 years he had known the mother. Evidence indicates that the mother was a congenital syphilitic who had given birth to a third generation congenital syphilitic.

The patient responded to neurosyphilitic treatment. After the first course of 10 weekly injections improvement was noted in serologic spinal fluid tests. Generally, the patient's condition has improved. He can now dress himself, and goes to school daily. He takes an interest in life, and is always asking if he may go to the motion pictures or to see friends—things he had never done before. He asks questions about treatment, whereas a few months ago he did not care.

Helliwell concludes that closer investigation into the histories of congenital syphilitics might show the disease to be commoner than is supposed. He adds that the most hopeless may be benefited by treatment. Also the question is raised as to whether these cases could be avoided by the administration of arsenic to all congenital syphilitics during pregnancy.

Bull. Acad. Med., Cleveland

A few health lights of 1944. Harold J. Knapp. 30: 1–7, Aug. 1945.

Bull. Dept. Health, Louisville

The Kentucky treatment center. T. E. Hynson. 17: 439–442, July 1945.

Bull. d'Hyg., Montreal

Report of the committee appointed to study the question of venereal diseases. 31: 1–71, May-June 1945.

Bull. U. S. Army M. Dept., Carlisle Barracks

Yaws in a white soldier. H. Rifkin. No. 86: 81–83, Mar. 1945.

Clin. Bull., San Francisco

Sterility in the male. 2: 1–4, July 1945.

Connecticut M. J., Hartford

Some recent advances in the control of infectious diseases. Francis G. Blake. 9: 679–687, Sept. 1945.

FAMILY (J. SOC. CASE WORK), NEW YORK
*Social redirection of venereally infected women. Virginia Fenske and H. L. Rachlin. 26: 111–115, May 1945.

Social redirection of venereally infected women.—In April 1944 the U. S. Public Health Service set up at the Midwestern Medical Center, St. Louis, Mo., a demonstration project for the social redirection of patients after discharge from intensive treatment centers. Staffed with a psychiatrist, a psychologist, and a psychiatric social worker, it was believed that the mental abilities of the patients could be determined, adjustments and capacities evaluated, and the patients could after discharge be placed to advantage in their communities.

This hospital with a population capacity of 298 admits both men and women with early venereal disease and syphilis of the central nervous system. All male patients are admitted voluntarily and comprise about one-quarter of the patients, while of the female group, only about 10 percent come as volunteers. The larger part of the hospital population comes from St. Louis, the remainder coming from surrounding rural areas.

Studies were made by Rachlin and by Weitz on female patients only since they comprise the larger part of the hospital population. The studies revealed that the patients were sexually promiscuous girls, not prostitutes, who were retarded mentally, had emotionally handicapped backgrounds, and held jobs which did not suit their mental abilities.

Through a diagnostic service at the Center and a program with the Department of Education, the patients had opportunities for work training to be utilized upon discharge. The criteria for patient referral to social agencies were based on: (1) mental ability and aptitudes, (2) emotional stability, (3) desire for service, (4) interest and ability of patient's relatives to help. About one-half of the female patients were referred to social agencies for redirection. Patients not referred to social agencies were those who showed ability to make their own plans and those who required institutional care.

Because these patients were emotionally disturbed, the reasons why they shoul seek help were explained and while amenable to redirection, they were speedily referred to agencies.

The social service office at the Cente helped patients with personal adjustmen problems by placing them in the care o protective agencies. Relief agencies gav temporary financial assistance and th American Red Cross offered service for th difficulties of servicemen's wives. Famil and children's service agencies aided unmarried mothers, patients with marital conflicts and those in need of general family consultation. The Young Women's Christia Association helped with housing facilitie and recreational direction of a constructiv type, and travel plans were assisted by th Traveler's Aid.

Those needing jobs or vocational guidance were helped by the psychologist, an follow-up instructions on venereal diseas were given routinely to all patients b medical agencies.

The authors point out that this study indicates that medical treatment of venereal disease will be handicapped unless the social forces that contribute to the diseas are also treated.

HAWAII M. J., HONOLULU
Premarital examinations. Editorial. 4: 309–310, July-Aug. 1945.

HOSP. CORPS QUART., WASHINGTON
Medical department organization bill. Medical department set-up at NCTC, Davisville, R. I. 18: 2–16, Aug. 1945.

ILLINOIS M. J., CHICAGO
Present day treatment of venereal diseases. Editorial. 88: 60–61, Aug. 1945.

INDIAN M. GAZ., CALCUTTA
Heparin in penicillin therapy. Peter Martin 80: 186–187, Apr. 1945.

J. A. M. A., CHICAGO
Concentrated attack on venereal disease. Medical News: Alabama. 129: 81, Sept. 1, 1945.
*Penicillin X: Comparison with penicillin G with respect to sensitivity of pathogenic organisms and serum levels. Edwin M. Ory, Manson Mead and Maxwell Finland. 129: 257–261, Sept. 22, 1945.

Penicillin X: Comparison with penicillin G with respect to sensitivity of pathogenic organisms and serum levels.—Several forms of penicillin have been

olated in crystalline form. Commercial
nicillins prepared from deep vat cultures
nsist almost entirely of penicillin G,
hereas those prepared from shallow sur-
ce cultures in flasks may contain up to
or 25 percent of penicillin X.

The authors refer to a paper by staff
embers of the Food and Drug Admin-
ration giving the results of a clinical
al of penicillin X in gonorrhea, in which
cteriologic cures were effected in 64 of
cases by means of a single intramuscular
jection of 25,000 units of penicillin X,
t wherein only 37 cures in 58 cases were
tained by 25,000 units of commercial
nicillin. Moreover, 3 of the latter fail-
es were subsequently cured by a single
,000 unit injection of penicillin X. The
rrent studies include a table showing the
mparative sensitivity of various bacterial
ains to penicillin X and to commercial
nicillin, and a chart comparing the aver-
e serum levels after single intramuscular
jections of regular penicillin and of peni-
lin X. When tested simultaneously with
eparations containing 65 percent or more
penicillin X and with commercial lots
nsisting almost entirely of penicillin G,
ost gonococcus strains were from 2 to 8
nes more sensitive to penicillin X. Com-
rable therapeutic results may therefore
expected with the use of smaller doses
penicillin X or with the same doses
ven at longer intervals. Levels of peni-
lin activity in the serum were at least
ice as high during treatment with peni-
lin X as during treatment with the same
ses of the regular commercial product.

A study of 47 cases of uncomplicated
norrheal urethritis, in which a total dos-
e of 75,000 units of penicillin X was used
23 patients, and 50,000 or 60,000 units
ere used on 14 patients, is presented. The
thors gained the impression that, clini-
lly, these patients responded more rapidly
d more completely than cases treated
th the usual 100,000 units of regular
nicillin. Although penicillin X is non-
xic and probably more effective than
gular penicillin in gonococcic infections,
e methods used in determining the sensi-
ity of the bacteria are admittedly crude
d the clinical trials few and not adequately controlled. Further trials will therefore be necessary to establish the absolute therapeutic superiority of penicillin X over regular penicillin.

J. AM. DENT. A., CHICAGO

Report of Senate Committee on wartime health and education. 32: 270–284, Mar. 1, 1945.

Penicillin and related preparations. Council on Dental Therapeutics adds new articles to list of accepted remedies. 32: 355–356, Mar. 1, 1945.

Similarity of mouth and vulvar lesions. John Parks. 32: 925, July 1, 1945.

J. INDIANA M. A., INDIANAPOLIS

Resume of eight hundred cases of early syphilis treated by five-day, slow-drip method. George W. Bowman and Paul E. Humphrey. 38: 259–268, Aug. 1945.

J. M. A., ALABAMA, MONTGOMERY

Penicillin therapy: Including tyrothricin and other antibiotic therapy. John A. Kolmer. 15: 109–110, Sept. 1945.

J. M. A. GEORGIA, ATLANTA

*Biologic false positive serologic tests for syphilis. Albert Heyman. 34: 165–167, Aug. 1945.

Biologic false positive serologic tests for syphilis.—Heyman, in discussing biologic false positive serologic tests for syphilis, lists 3 types of false positive reactions. They are (1) those caused by technical errors, (2) those produced by spirochetal diseases other than syphilis, and (3) biologic false positive reactions. Each type is discussed briefly.

The procedure to follow for detection of false positive reactions should include: Careful history, search for a basis for a false positive reaction, epidemiologic study, repeat tests, performance of quantitative tests, allowance for a period of probation.

Although no one of these procedures alone may supply a definite answer, all of these factors duly considered are necessary.

J. M. SOC. NEW JERSEY, ORANGE

Venereal disease control. Baxter A. Livengood. 42: 150, May 1945.

J. ROY. ARMY M. CORPS, LONDON

The health of the middle east force, 1942-1943. A. E. Richmond and H. S. Gear. 85: 1–32, July 1945.

M. J. AUSTRALIA, SYDNEY

A study of diseases of Australian natives in the northern territory. Raymond T. Binns. 1: 421–429, Apr. 28, 1945.

Treatment of syphilis (review of book). 1: 542, May 26, 1945.

On the systemic administration of penicillin. James Dow and Peter Martin. 2: 114–115, July 28, 1945.

Meningo-vascular syphilis with spasticity. Medical Societies. 2: 127, July 28, 1945.

Lymphogranuloma venereum. Current Comment. 2: 154–155, Aug. 4, 1945.

A slide modification of the Eagle flocculation test. N. E. Goldsworthy, F. Simpson and Hugh K. Ward. 2: 173–176, Aug. 11, 1945.

A case of "mapharsen"-resistant syphilis. Clinical Record. J. V. Gordon. 2: 279, Sept. 1, 1945.

A yearbook on dermatology and syphilology. Marion B. Sulzberger. 2: 280, Sept. 1, 1945.

A yearbook in obstetrics and gynaecology. J. P. Greenhill. 2: 280, Sept. 1, 1945.

M. Times, New York

Syphilis: What treatment should be given to prevent an increase in Wassermann-fast findings? John E. Hall. 73: 5–7, Jan. 1945.

M. Woman's J., Cincinnati

British health in the sixth year of the war. 52: 52–53, June 1945.

Mil. Surgeon, Washington

Venereal disease control. Association notes. 97: 253, Sept. 1945.

Penicillin treatment of gonorrhea. Association notes. 97: 255–256, Sept. 1945.

Modern Hosp., Chicago

Administration of penicillin. Bradford N. Craver. 65: 106, 108, Sept. 1945.

New England J. Med., Boston

Neurology. H. Houston Merritt. 233: 272–277, Aug. 30, 1945.

Case records of the Massachusetts General Hospital. Weekly Clinicopathological Exercises. 233: 305–307, Sept. 6, 1945.

New Orleans M. & S. J., New Orleans

Sulfamerazine in the treatment of genito-urinary infections. An analysis of 151 consecutive cases. W. E. Kittredge and Arthur J. Butt. 98: 63–65, Aug. 1945.

Northwest Med., Seattle

Rapid treatment centers for venereal disease therapy. 44: 270, Sept. 1945.

Training plan on Pacific diseases. 44: 271, Sept. 1945.

Rapid treatment of syphilis. 44: 294, Sept. 1945.

Nova Scotia M. Bull., Halifax

Diagnosis of urethritis in the male. V. D. Briefs. 24: 239, Aug. 1945.

South. M. J., Birmingham

Transportation of gonococcus specimen. Nell Hirschberg. 38: 493–497, July 1945.

South. Med. & Surg., Charlotte

Gonococcal infections in infancy and childhood. Pediatrics. 107: 184–186, May 1945.

Stanford M. Bull., San Francisco

*Significance of penicillin in the treatment of gonorrhea and in venereal disease control. Richard A. Koch. 3: 81–87, May 1945.

Significance of penicillin in the treatment of gonorrhea and in venereal disease control.—It is the purpose of this report to review the records of the gonorrhea patients treated with penicillin at the San Francisco City Clinic from Jan. 5, 1944 to Dec. 1, 1944; to determine from an evaluation of these records some indication of the optimum dosage of penicillin and the minimum period of observation which is commensurate with adequate public health safeguards; to contemplate the place penicillin is likely to play in future venereal disease control, and to consider the broad social factors related to the spread of venereal diseases.

The author describes the methods of diagnosis and treatment, and states that the minimum criterion of cure was arbitrarily established to be at least 3 consecutive negative cultures. These were taken over a 4-week observation period. Many of the patients were followed up to 12 weeks, however. Of 207 treatments administered with 50,000 to 150,000 units of penicillin, 23 percent were considered treatment failures, and of 139 treatments administered with 200,000 units of penicillin, 14 percent were considered failures. All patients found to have a positive culture within 3 months of their treatment were considered failures, but a review of the 67 individual cases showed that only 5 should be considered possible reinfections. It is possible that there might have been other reinfections, but the evidence was not good. Reinfection in male patients would probably have been accompanied by clinical symptoms, but these did not appear in any case, so it is likely that the majority of the failures were not reinfections. It is of interest to note that of the total failures, 54 percent occurred by the end of the second week following treatment, 75 percent before the end of the fourth week, and 25 percent after the fourth week.

The statistics presented show the fallacy of accepting as sufficient evidence of cure the asymptomatic state of a patient ith gonorrhea who has been under penillin treatment. One-seventh of the paents treated with 200,000 units of penillin were still infectious during their inically asymptomatic state. Two or three ionths of laboratory observation might ; necessary in order to give assurance iat all these patients were bacteriologally negative, but it would seem that 4 eeks is a reasonable period of observaon, with regard to holding the patient id protecting the public health.

The author concludes with a discussion f sexual promiscuity and other cultural id social factors in the spread of venereal isease, and shows that consideration iould be given the nonmedical aspects of ie venereal diseases in order to effect ieir ultimate public health control.

EXAS STATE J. MED., FORT WORTH
Venereal disease control in Camp Bowie. George A. Gray. 41: 213–215, Aug. 1945.
*The venereal disease conference. Garland P. Franks. 41: 261–264, Sept. 1945.

The venereal disease conference.—The uthor describes the work done by the city f Wichita Falls in combatting a sudden ise in the venereal disease rate following ie erection of an Army Air Force trainig school near that city.

The Friday Morning Conference, a eekly meeting of all agencies concerned ith the control of venereal disease, was stablished. Problems were discussed by epresentatives of military establishments, ie health department, school system, poce, welfare agencies, and the U. S. O., nd the policy of treating venereal disease s a disease and not as a moral lapse was greed upon.

Civilian and military police patrolled toether in making investigations and arests. Women picked up were jailed, if agrants, or released if found to be local esidents, but all were examined for venreal disease by the city health unit. Quarntine and treatment were instituted in ases of positive diagnosis, while cases f negative findings were immediately reased. All work was done confidentially ith no social stigma attached to the paents.

The Friday Morning Conference was outstandingly successful for over 2 years after its inception in 1942. The venereal disease rate remained at a low figure and other communities followed the example and methods set by Wichita Falls.

In 1944, however, the incidence of venereal disease began to rise rapidly. After close investigation, three factors were found to be responsible for this increase. The first was the introduction of a new type of personnel to the largest military base, Sheppard Field. Returned veterans began to replace inductees, and these men were much more difficult to discipline than young soldiers just entering service. Second, many women and girls were found to be repeaters of their offenses, and after treatment and cure were as promiscuous as before. Their course of hospital treatment, in fact, was often considered a "vacation." Third, a gradual relaxation in cooperation by various agencies had come about. Hotels, taxi operators, etc., had become increasingly lax in their standards and permitted contacts were becoming more numerous.

To combat these deteriorating factors, a new and revitalized program is being instituted by the Conference. Repeaters are being severely penalized. The radio, films, and lectures are being more widely utilized in service club programming, and vice squad work is being undertaken with renewed vigor, all with gratifying results. Wichita Falls is again demonstrating the value of concentrated community teamwork in reducing the dangers of venereal disease to a minimum.

TR. ROY. SOC. TROP. MED. & HYG., LONDON
Foot yaws. A. D. Charters. 38: 461–462, July 1945.

U. S. NAV. M. BULL., WASHINGTON
Penicillin sensitivity. Angio-neurotic reaction. D. A. Strickland. 45: 768, Oct. 1945.

VIRGINIA M. MONTHLY, RICHMOND
Recent advances in drug therapy. Austin Smith. 72: 367–372, Sept. 1945.

WAR MED., CHICAGO
Penicillin sodium in treatment of sulfonamide-resistant gonorrhea in a Station Hospital. J. John Kristal. 8: 34–35, July 1945.

AUTHOR INDEX

Ackerman, Helen, 146
Allen, S. J., 164
Alles, Gordon, 165
Alture-Werber, Erna, 160
Anderson, Katherine, 115, 144
Anderson, Laura T., 12, 141
Annegers, J. H., 44
Arkin, Aaron, 111
Armstrong, Charles D., 112
Arnold, R. C., 58
Aron, H. C. S., 18
Ashken, L. Handley, 248
Astrachan, Girsch D., 61
Atcheson, Donald W., 186
Atkinson, A. J., 44
Austrian, Robert, 112

Bahn, Jeanne M., 146
Barnard, Robert D., 87
Barry, F. M., 140
Barton, Robert L., 241
Bauer, Theodore J., 156
Beard, J. W., 114
Beattie, Guila F., 12
Beck, Diana J. K., 210
Beerman, Herman, 13, 231
Beeson, Paul B., 9
Bell, Herbert J., 189
Beyer, Karl H., 163, 184
Binkley, George T., 158
Binkley, George W., 84
Blankenhorn, M. A., 40
Bliss, Eleanor A., 88
Boak, Ruth A., 245
Bosworth, Nathaniel L., 41
Brockmore, Arnold, 84
Bronfenbrenner, Jack, 234
Bronstein, Lewis H., 160
Brown, Herman, 144
Bruyere, Martha C., 130, 216
Bruyere, Paul T., 216
Bundesen, Herman N., 156
Burke, Frederic Gerard, 187
Buroker, F. M., 268
Bushby, S. R. M., 64

Callender, George R., 81
Cannefax, George R., 41, 105
Cannon, A. Benson, 12, 59
Carlisle, James M., 20
Carpenter, Charles M., 89, 146, 191, 244, 245
Carter, T. J., 12, 141
Castillo, Julio C., 18
Chambers, Wesley M., 12, 141
Chandler, Velma L., 162
Chandy, Jacob, 165
Chargin, Louis, 251
Chesney, Alan M., 43
Chesney, Lee, 5
Chinn, Ben D., 222
Chow, Bacon F., 143
Clarke, Walter, 189
Clough, William J., 238
Cohn, Alfred, 203
Cole, W. T. S., 81
Colio, L. G., 140
Colley, Jesse, 207
Collier, H. O. J., 83
Colvin, Mayme C., 162
Cooke, Jean V., 87
Cooper, G. R., 114
Courville, C. J., 85
Cowan, Henry, 116
Cowper, H. H., 192
Cox, C. B., 210
Craig, H. W., 114
Craig, R. M., 18, 86, 113, 268
Crede, R. H., 85
Crutchfield, A. J., 141
Cutting, Windsor C., 112

Damon, Samuel R., 162
Davis, Bernard D., 65
Davis, Ruth P., 162
Deibert, Austin V., 238
Deitz, Helen C., 88
DeMonbruen, W. A., 115, 144
Dennis, Robert L., 63
Dorn, Leslie, 245
Dorrell, I., 212
Duncan, Everett T., 49
Duncan, Leroy, 140
Dunham, Wolcott B., 142
Dunning, William B., 58
Durant, M. J., 210
Dyar, Robert, 16, 27

Eagle, Harry, 11, 43
Eagles, Eldon L., 66
Elias, William, 140
Eller, C. Howe, 21
Elmes, B. G. T., 111
Elsberg, Elizabeth S., 44
Ercoli, N., 64
Ericksen, J. O., 114
Etteldorf, James N., 86
Evans, Albert L., 204

Favour, Cutting B., 234
Feiner, Rose R., 185
Fenske, Virginia, 270
Ferguson, William, 145
Fidler, William F., 153
Findlay, G. M., 111
Finland, Maxwell, 270
Finn, William F., 82
Fisher, Jerome K., 12
Fisher, Samuel, 238
Fisk, Roy T., 165
Fleischman, Ralph, 43
Foord, Alvin G., 165
Fox, Howard, 10, 58
Franks, Garland P., 273

Gamboa, Armand M., 84
Gammon, George D., 231
Geiger, J. C., 249
Gibson, Augustus, 20
Gillick, Frederick G., 198, 222
Goldring, David, 87
Goodell, J. P. B., 17
Goodpasture, E. W., 115, 144
Goodwin, Mary S., 160
Gordon, Harry H., 250
Gourdin, Allston, 89
Grace, Arthur W., 145
Graham, William E., 41, 105
Gray, Laman A., 212
Greenblatt, Robert B., 105, 238
Grill, John, 39
Gruber, Charles M., 160
Grunstein, Isaak, 203
Guthrie, Nobel W., 22
Guttman, Samuel A., 37
György, Paul, 140

Halpern, Richard M., 112
Hamilton-Paterson, J. L., 81
Hamre, Dorothy M., 145
Hand, Lee, 71
Hansen, Arild E., 160
Hanson, Henry, 191
Hanson, P. C., 17
Harned, Ben King, 86
Harris, Albert H., 18, 139
Harris, Earle H., 211
Hawkins, W. B., 17
Hazen, H. H., 256
Heilbrunn, Gert, 207
Heimoff, Leonard L., 44
Heller, J. R., Jr., 98, 168
Helliwell, C. J. V., 269
Herrero, J. A., 59
Herwick, Robert P., 61, 84, 161
Hesselbrock, William B., 250
Heyman, Albert, 38, 51, 80, 184, 271
Hill, Allen J., 160
Hindle, J. A., 191
Hinrichsen, Josephine, 67
Hirschberg, Nell, 114
Hogan, Ralph B., 43
Holmes, E. M., Jr., 5
Holoubek, Alice Baker, 203
Horn, Paula, 192
Hundley, Joseph L., 191
Hunter, Albert G., 38
Hutcheson, Robert H., 49
Hntter, A. M., 84, 203

Ingraham, Norman R., 160
Ingraham, Norman R., Jr., 13, 231
Iskrant, Albert P., 133, 175
Ivy, A. C., 44

Jackman, James, 205
Johnson, Sture A. M., 245
Johnston, Jean, 239
Jones, Helen, 145
Jones, Nathaniel, 191
Jones, T. R. Lloyd, 164
Jorstad, Louis H., 83

Kahn, Reuben L., 146
Kaufman, John B., 252
Kaufman, R. L., 159
Kaye, Sidney, 18
Kendell, H. Worley, 18, 86, 113
Kile, Roy L., 158
Kirkendall, Lester A., 245
Kirby, William M. M., 17
Kirschbaum, Walter R., 267
Koch, Richard A., 71, 272
Kolmer, John A., 144
Kornblith, Borris A., 88
Krakauer, Adolf, 230
Kuzma, Joseph F., 39

Lafferty, Lillian C., 64
Lambert, A., 37
Lange, Carl, 18, 139
Lankford, Charles E., 114
Lapenta, Rocco G., 187
Larimore, Granville W., 88, 266
Lawrence, Herbert, 81
Leavitt, Herbert M., 150
LeFevre, Ira D., Jr., 82
Lehr, David, 113
Lentz, J. W., 13, 231
Leonard, Martha F., 8
Levenkron, Esther, 185
Levin, Myron J., 40
Libby, Raymond L., 112
Liebmann, A. J., 86, 212
Lippincott, Stuart W., 250
Litterer, Ammon B., 252
Little, C. J. Harwood, 164
Loewe, Leo, 160
Lourie, E. M., 83
Lubert, Mortimer, 205
Lucas, Robert L., 268
Lumb, George, 164
Lydon, F. L., 85
Lynch, Elsa R., 144

McDermott, Kenneth F., 82
McDermott, Walsh, 245
MacDonald, Robert M., 42
McKee, Clara M., 143
MacKee, George Miller, 61
McLaughlin, C. R., 251
McNamara, Marie, 233
McQuarrie, E. B., 86
Maechling, Eugenia, 12
Mahaffey, J. Lynn, 3
Mahoney, J. F., 11, 61
Maitland, G. F., 164
Marble, Alexander, 250
Marin, A., 37
Mattis, Paul A., 184
Mattison, Berwyn F., 211

eads, Manson, 270
enville, John G., 40, 62
eyer, Edda, 94
iller, Edward S., 9
iller, Malcolm E., 63
oore, Joseph Earle, 9, 11, 38, 60
organ, Henry G., 231
ortara, Franco, 185
urphy, Francis D., 39
urphy, Robert J., 207
yers, J. D., 85

elson, Rachel B., 83
elson, Russell A., 83, 140, 245
eurath, Hans, 114
ewton, H. D., 19
eymann, Clarence A., 207
ielsen, Jean K., 38

lansky, Sidney, 142
'Leary, Paul A., 9, 38
ry, Edwin M., 270

ardoll, Davis H., 63
ariser, Harry, 120
arkins, William M., 165
arks, John, 203
erlstein, D., 212
eters, Lawrence, 163, 184
etersen, M. C., 252
ilcher, J. D., 140
illsbury, D. M., 85
latou, R. V., 160
olayes, S. H., 245
olley, Theodore F., 39
otter, Harold W., 160
ratt-Thomas, H. R., 35
rice, Clifford W., 38, 162, 165
rout, C., 191
utnam, F. W., 114
utnam, Lawrence E., 61, 142
utnam, Lawrence K., 84

achlin, H. L., 270
ahm, Evelyn, 245
ake, Goeffrey, 142, 145
andall, William A., 61, 165
antz, Lowell A., 17
ein, Charles R., 44, 81, 87, 251
eynolds, Lloyd R., 209
iba, Leander W., 41
ittman, George E., 207
odriguez, Juan J., 12
omansky, Monroe J., 207
ose, A. S., 191, 230

Rose, Elizabeth Kirk, 231
Rosenberg, Arthur A., 58
Rosenblatt, Philip, 160
Ross, A. O. F., 83
Ross, Clarence W., 40, 62
Ross, Sidney, 187
Rowntree, Leonard G., 19
Ruhland, George C., 222
Russell, Dorothy S., 210

Sako, Wallace, 207
Saltnsky, E. M., 139
Sarnoff, Herbert, 187
Scarcello, Nicholas S., 252
Scheinker, I. M., 39
Schmidlapp, Carl J., 41
Scholtz, Julius R., 16
Schwartz, Walter H., 11
Schwemlein, G. X., 18, 86, 113, 268
Schwitalla, Alphonse M., 260
Scott, Virgil, 34
Seeberg, V. P., 31
Seff, Harold W., 57
Shafer, J. C., 141
Shaffer, Morris F., 145
Shannon, William F., 62
Sharp, D. G., 114
Shaweker, Max, 209
Silverman, Sidney S., 63
Simpson, John F., 202
Sittler, Edwin C., 156
Smith, D. C., 141
Smith, W. H. Y., 130
Snapp, F. E., 44
Solomon, Harry C., 9, 38
Stafford, Jane, 234
Steele, Willard, 231
Steiger, Howard P., 202
Stein, Russell, 77
Steinberg, S., 1
Sternberg, Thomas H., 11, 88, 266
Stokes, John H., 9, 11, 13, 38, 231
Strauss, Clifton, 187
Stubbs, Dorothy, 198
Suarez, Ramon M., 203
Swank, Robert R., 198

Taylor, A. R., 114
Taylor, Howard C., Jr., 203
Taylor, K. P. A., 252
Tello, E. E., 59
Thomas, Evan W., 9, 36, 38
Thomas, Ruth Boring, 41, 94
Thompson, Gershom J., 14
Thrasher, John R., 232

Tilbury, Ross, 207
Trevett, L. D., 191
Trumper, Max, 84

Uhl, George M., 159
Usher, Glenn S., 3, 77, 116
Usher, G. L. C., 81
Usilton, Lida J., 130, 216, 263

Vandegrift, H. N., 140
Van Slyke, C. J., 1, 61, 98
Van Winkle, Walton, Jr., 161
Venner, Robert B., 82
Verda, D. J., 83
Verwey, W. F., 163, 184
Vilter, C. F., 39, 40
Volkin, E., 114
Vorisek, Elmer A., 204

Walker, Allen E., 191, 241
Wallace, John, 64
Warren, Stafford L., 191
Weckstein, Abraham M., 187
Weiner, Alfred L., 233
Weiss, Harry, 268
Welch, Henry, 38, 61, 84, 142, 162, 165
Wexler, Gertrude, 36
Weyrauch, Henry M., 209
Whitehill, Richard, 112
Wiederkehr, J., 42
Wile, Udo J., 245
Wiley, Marjorie, 165
Wilkinson, Erle E., 160
Williams, Leonard, 245
Wilson, Charles C., 58
Winchester, Millard E., 89, 245
Wise, C. R., 85
Wolf, Abner, 37
Wood, W. Barry, Jr., 11
Woods, Alan C., 43
Woodward, Roland, 163, 184
Wright, H. E., 212

Youmans, G. P., 207
Young, Anna M., 64

Zellermayer, Jacob, 194
Zeve, Herman S., 36
Zielinski, E. L., 62
Zinnamon, B. L., 31
Zintel, Harold A., 165
Zobel, Robert L., 49
Zwally, Margaret R., 58

SUBJECT INDEX

Adrenalin, and penicillin, activity prolonged, 165
Advisory Committee, U. S. Public Health Service, report of, 256
Alabama
  compulsory blood testing, 234
  syphilis control through mass blood testing, 130
Aneurysm
  and syphilitic aortitis, 111
  aorta—
    abdominal—
      diagnosis of, 34
      rupture into duodenum, 35
Aortitis
  syphilitic—
    and aneurysm, 111
    autopsy studies, 205
Army
  neurosyphilis, treatment, 38
  syphilis—
    bismuth stomatitis during treatment, 63
    in inductees, analysis of 5,000 cases, 194
    Schoch intensive treatment in U. S. Army hospitals in European Theater of Operations, 85
  venereal disease—
    control—
      in Air Forces, Central Flying Training Command, 5
        contact histories, analysis of, 5
      postwar planning, 88
    education, 266
      in Air Forces, medical officer, duties of, 27
    overseas rates, 66
Arsenicals
  mapharsen—
    See Syphilis, treatment, intensive
    effect of bile acids on biliary excretion, 44
  neoarsphenamine, effect of bile acids on biliary excretion, 44
  reactions to—
    cutaneous, Navy 1943, 12
    nausea and vomiting prevention, 57
  toxicity, Navy report, 141
Atabrine, and sulfathiazole, concomitant administration, 86
Atrophy, acute, of liver, in early syphilis, case, 8

Birmingham, compulsory blood testing, 234
Bismuth
  estimation of, in urine, 18
  excretion, in artificial fever chemotherapy, 18
  toxicity, systemic manifestations, 38

California, legislation, prenatal blood tests and congenital syphilis, study of, 158
Cancer, of tongue, diagnosis and treatment, 83
Case finding
  contact investigation an instrument in, 133
  in occupational groups, 216
  methods in VD control, Norfolk, Va., 120
Case holding, outpatient venereal disease clinics, 198
Cerebrospinal fluid, interpretation of findings, 139
Chancroid
  diagnosis, intradermal injection with Hemophilus ducreyi, 185
  management, tropical theater, 139
Chicago Intensive Treatment Center, mechanized system of patient follow-up, 156
Clinics
  venereal disease—
    District of Columbia, 222
    outpatient, 198
    San Francisco, statistical report, 249
Colloid gelatin, and privine as means of delaying absorption of penicillin from blood stream, 166
Complement fixation test, lymphogranuloma venereum, epidemiologic study of, 9
Congenital syphilis
  and prenatal blood tests, study of in California, 159
  treatment, penicillin, 11, 13, 160
Congress, punishment of venereal disease in Armed Forces ended by, 19
Contact investigation
  an instrument in case finding, 133
  gonorrhea, 22
  venereal disease, 20
Court decision
  quarantine of venereal disease patients, 207
  Workmen's Compensation Acts—
    protects syphilitic workman, 23
    protects workman acquiring gonorrhea, 45

Dementia paralytica *See* Paresis, general
Dermatitis, due to penicillin, 84
Diramin, in granuloma inguinale, 238
District of Columbia
  venereal disease control—
    future needs, 222
    outpatient clinics, 198

Education
  sex, in a Baltimore high school, 21
  venereal disease, 21
    evaluation of program in Georgia, 89
    in a county jail, 71
    Negro schools, 245
    U. S. Army Air Forces, medical officer, duties of, 27
Electric shock, in general paresis, 252
England
  venereal disease control, 45
    Army, sulfonamide therapy failure in Italy, 189
Europe, venereal disease control, 205

False positive reactions *See* Serodiagnostic tests for syphilis
Fever therapy
  and arsenotherapy in intensive treatment of early syphilis, 36
  and chemotherapy—
    arterial oxygen saturation determination, 86
    bismuth excretion studies in, 18
    charting procedures, 113
  and mapharsen, 1-day treatment of syphilis, 191
  induction period, 268
  in neurosyphilis, intravenous foreign protein, 141
  toxic hepatitis in, 42

General paresis *See* Paresis, general
Georgia, venereal disease control, evaluation of educational program, 89
Glucuronic acid, measure of absorption of penicillin, 212
Gold reaction, pH significance in, 18
Gonococcus
  and gonoccoccic infections, treatment, penicillin, 209
  cultures—
    read at 24 and 48 hours, comparison, 239
    transportation, 77, 114
  isolation, carbon dioxide requirements, 145
  penicillin—
    in vitro tolerance for, 114
    resistance in vitro to, 146
Gonorrhea
  contact investigation, 22
  sulfonamide resistant, 15, 42
    treatment—
      fever-chemotherapy complicated with toxic hepatitis, 42
      penicillin, 40, 41, 62, 63, 142, 153
        outpatient, 153
        reactions to, 142
  treatment—
    chemotherapy, 63
    hypertherm, hazards of, 64
    penicillin, 14, 31, 164, 186, 207, 272
      effect on development of early syphilis, 241
      New Jersey's plan, 3
      outpatient, 1
    penicillin-oil-beeswax, single intramuscular injection in, 93, 98, 207
    penicillin X, single intramuscular injection, 61
    pyrotherapy, 63
    review, 61
    sulfathiazole, case report, fatal, 39
    sulfonamide, failure of, in British Army in Italy, 189

onorrhea in women
  sulfonamide resistant, treatment, penicillin, 49, 192, 203
  treatment—
    penicillin, 93, 94, 212
    penicillin-wax-oil, accelerated methods in, 105
    sulfonamide, 41, 94
Granuloma inguinale, 59, 115
  diagnosis, 247
    intradermal reaction, 88
  Donovania granulomatis cultivated from, 115
    immunologic relationship of, 115
  etiology and immunology of, experimental investigation, 144
  treatment
    diramin, 238
    penicillin, case reports, 83
Gumma, 59

Heart disease
  in industry, 20
  in Puerto Rico—
    analysis of 1,081 cases, 203
    incidence, 203
  in South, study of 1,045 deaths, 203
Hemophilus ducreyi, experimental infectivity of, and development of skin hypersensitivity, 185
Homosexuality, venereal disease, relation of, 67
Hyperthermia, hazards of, 64

ndia, venereal disease, incidence of, 36
ndustry, cardiac patient in, 20
nternational conference, recommendations on penicillin, 89
taly, gonorrhea in British Army, 189

Kahn test
  and 1-tube flocculation test in serologic tests for syphilis, comparative results, 162
  technic of, and of special procedures, 146

Legislation
  Alahama, compulsory blood testing, 234
  California, prenatal blood tests and congenital syphilis, 159
  Tennessee, quarantine breaking punishable, 207
Lumbar puncture headaches, 40
Lymphogranuloma venereum
  complement fixation test for, epidemiologic study of, 9
  diagnosis, chick embryo, 145
  in pregnancy, case reports, 82
  in Royal Air Force, 251

Malaria
  and serologic reactions for syphilis in British soldiers, 111
  complement fixation tests for, 250
  effect of, on blood and spinal fluid tests for syphilis, 161
Malaria, therapeutic, penicillin, effect on, in neurosyphilis, 191
Mapharsen
    See also Syphilis, treatment, intensive
  and fever therapy, 1-day treatment of syphilis, 191
  and neoarsphenamine, effect of bile acids on biliary excretion, 44
  hemorrhagic encephalitis following, 85
  liver injury from, protected by methionine, 17
  toxicity, effect of fever on, in rabbits, 247
Medical Women's Federation, views concerning venereal disease control in England, 45
Meningitis
  acute syphilitic—
    diagnostic difficulties, 185
    treatment, penicillin, 140
Methionine, protection against mapharsen liver injury, 17
Mouth, syphilis of, 58

Nanumea Atoll, Ellice Islands, yaws, 82
Navy
  arsenical reactions, 141
    1943 report, 12
  syphilis, control, 19
  venereal disease, nonmedical control officers, 146
Negro, neurosyphilis in, 267
  syphilis rates, civilians, World War II, 263
  venereal disease education, 256
    in schools, 245
Neoarsphenamine, and mapharsen, effect of bile acids on biliary excretion, 44
Neosynephrin, and colloid gelatin, as means of delaying absorption of penicillin from blood stream, 166
Neurosyphilis,
  in Negro, study of, 267
  manifestations of, 9
  treatment—
    fever, intravenous foreign protein, 141
    in Army, 38
    penicillin, 11, 230
      effect on blood and spinal fluid, 231
    penicillin and malaria, effect, 191
    typhoid vaccine, continuous, 51
New Jersey
  gonococcus specimens transmitted by mail, 77
  penicillin—
    distribution, 209
    treatment plan, syphilis and gonorrhea, 3
  venereal disease control, migrant farm laborers 116
New York, venereal disease, syphilis outbreak, 211
Norfolk, venereal disease control, case-finding methods in, 120
Nova Scotia, venereal disease control, 66

Ophthalmia, gonococcal,
  treatment—
    penicillin, 204
      case report, 63

Para-aminohippuric acid
  and penicillin—
    experimental studies in dogs—
      physiologic economy, 163
      plasma concentration, 184
Paresis, general
  economic cost in United States, 175
  spinal fluid in, 230
  treatment—
    electric shock, 252
    penicillin, 208
Penicillin
  absorption and excretion, 17, 166, 212
  action—
    on uterus, 150
    prolonged, 112
  administration—
    intrathecal, in cerebral spinal syphilis, 232
    oral, 140, 164, 187
    rectal suppository, 161
  and adrenalin, activity prolonged, 165
  and colloid gelatin and privine or neosynephrin, blood level maintenance in, 166
  and human plasma proteins, interaction between, 143
  and para-aminohippuric acid—
    physiologic economy in dogs, 163
    plasma concentration in dogs, 184
  and sulfamezathine, local action in rabbit brain, 210
  anti-spirochetal activity of, in experimental infections, 64
  beeswax-peanut oil, single injections in, in gonorrhea, 207
  beeswax-sesame oil suspensions, delayed intramuscular absorption, 31
  blood level in, 234
  cause of dermatitis, 84
  clinical action on uterus, 150
  combined with procaine hydrochloride, 62
  concentration—
    in blood, prolonged, 234
    in body fluids, 87
  congenital syphilis—
    infantile, 160
    prevention and treatment, 13
  correlation of purity, 84
  distribution in New Jersey, 209
  estimation of, in body fluids, 166
  general paresis, 208
  genito-urinary infections, 14
  gonococcic—
    infections of urogenital tract, 209

- Penicillin—gonococcic—continued
    - pelvic infections in women, 212
    - urethritis, 188
  - gonococcus, resistance in vitro to, 146
  - gonorrhea, 164, 186, 207, 270, 272
  - effect on development of early syphilis, 241
    - New Jersey's treatment plan, 3
  - sulfonamide resistant, 40, 41, 62, 63, 153
    - intramuscular irritation, 142
    - treatment by delayed intramuscular absorption, 31
  - gonorrhea in women, 93, 94, 105
    - sulfonamide resistant, 49, 192, 203
  - gonorrheal ophthalmia, case report, 63
  - granuloma inguinale, treatment of, case reports, 83
  - in oil, oral administration, 112
  - in vitro tolerance of gonococcus for, 114
  - International Conference, recommendations of, 89
  - meningitis, acute syphilitic, treatment of, 140
  - neurosyphilis, 11, 230
    - and therapeutic malaria, effect on, 191
    - effect on blood and spinal fluid, 231
  - oil-beeswax, single intramuscular injection in gonorrhea, 93, 98
  - ophthalmia, gonococcal, 63, 204
  - outpatient treatment—
    - gonorrhea, 1
      - sulfonamide resistant, 153
  - prolonged effective action, method, 84
  - review of, 161
  - salts of, seven, toxicity of, 162
  - syphilis, 3, 11, 19, 60, 83, 158, 245
    - early, treatment of, 83, 158
    - New Jersey's treatment plan, 3
  - toxicity, 38, 84, 162
  - transfer of, into cerebrospinal fluid, 245
  - transmission of, through placenta, 204
  - uniform standards of, International Agreement, 67
  - vaginitis, gonorrheal in children, 208
  - warnings in use of, 252
  - wax-oil mixture, gonorrhea in women, accelerated methods of, 105
  - yaws, 112
- Penicillin F, 161
- Penicillin G, 161
  - action on Treponema pallidum, 142
- Penicillin X, 161
  - comparison of with penicillin G, 270
  - gonorrhea, single intramuscular injection, 61
- Penicillinase, studies on, 86
- Pinta
  - and yaws, 10
    - geographic distribution, 10
- Placenta, penicillin, transmission through, 204
- Postwar, venereal disease control, 88, 189
- Pregnancy
  - lymphogranuloma venereum, case reports, 82
  - penicillin—
    - clinical action on, 150
    - transmission through placenta, 204
- Premarital legislation *See* Legislation, premarital
- Privine, and colloid gelatin as means of delaying absorption of penicillin from blood stream, 166
- Procaine hydrochloride, combined with penicillin, 62
- Prophylaxis
  - gonorrhea, sulfathiazole in calomel ointment, 253
  - syphilis, experimental with phenyl arsenoxides, 43
  - venereal disease, sulfonamide-mercury compound, 253
- Prostitution, control, United States, postwar, 189
- Puerto Rico
  - heart disease in, analysis of 1,081 cases, 203
  - incidence, 203

- Quarantine, venereal disease, breaking of a punishable offense, 207
- Quinine, and sulfathiazole, concomitant administration, 86

- Rapid treatment centers, Chicago, 156
- Reiter's disease, 268
- Research workers service, 149

- San Francisco
  - serologic survey and venereal disease, educational program in county jail, 71
  - venereal disease clinics, statistical report, 249
- Selective Service
  - statistics, syphilis, 216
  - venereal disease in, 19
- Serodiagnostic tests for syphilis, 58, 114
    - *See also* names of tests
  - and malaria, in British soldiers, 111
  - false positives, 251
    - biologic, 114, 271
      - following tetanus toxoid, 44
      - laboratory differentiation, 65
    - due to malaria, 58, 111
    - effect of malaria on blood and spinal fluid tests, 161
    - effect of sodium hydroxide on, 144
    - incidence and nature, 44
    - influence of malaria on, 210
  - in relation to occupation and marital status, men of draft age, 216
  - Kahn standard and 1-tube flocculation procedure, comparative results, 162
  - quantitative, 80
    - practical application, 233
  - rapid presumptive complement fixation, 209
  - reliability, 251
  - S.S. (rapid microscopic)), 248
  - slide test, 81
  - suitability of serum from recalcified human plasma, 87
  - verification tests, 81
- Social hygiene, postwar problems and strategy, 189
- Social redirection, in women with venereal disease, 270
- Specimens
  - collection and mailing of, guide to, 20
  - transmission of, to laboratory, 77
- Statistics, 24, 46, 68, 90, 117, 147, 214, 236, 254, 280
    - *See also* names of countries
  - syphilis, Selective Service, 216, 263
  - venereal disease—
    - Army, overseas, 66
    - contact investigation, 20
    - Europe, 205
    - San Francisco clinics, 249
    - Selective Service, 19
      - Negro, 19
- Sulfonamides
    - *See also* name of disease, treatment
  - bacteriostatic activities of, comparison, 88
  - drug precipitation in urinary tract, 113
  - gonorrhea—
    - resistance to, 40, 41, 42, 62, 63, 153
    - treatment failure in British Army in Italy, 189
  - gonorrhea in women, resistance to 49, 192, 203
  - sulfamezathine, and penicillin, local action in rabbit brain, 210
  - sulfathiazole—
    - and quinine or atabrine, concomitant administration, 86
    - prophylaxis—
      - for gonorrhea, in calomel ointment, 253
      - for venereal disease, and mercury compound, 253
    - toxicity, fatal, case report, 39
  - toxicity, 40
    - renal, 15, 39
      - autopsy report, 64
- Switzerland, gonorrhea, sulfonamide resistant, 42
- Syphilis
  - Army inductees, analysis of 5,000 cases, 194
  - cancer of tongue, differentiation, 83
  - cerebral spinal, treatment, penicillin, 232
  - diagnosis *See* Serodiagnostic tests for syphilis, names of tests
  - early—
    - associated with acute yellow atrophy of liver, case, 8

- philis—early—continued
  - effect of penicillin on development of, 241
  - treatment—
    - intensive—
      - fever and arsenotherapy, 36
      - reactions, 85
      - Schoch method, U. S. Army use in European Theaters of Operation, 85
    - penicillin, 83
- experimental—
  - prophylaxis with phenyl arsenoxides, 43
  - in golden hamster, 247
  - in mice, 246
  - relation of eye to immunity in—
    - after primary intracorneal inoculation, 43
    - after intratesticular inoculation, 43
- in gonorrhea patients and contacts, 22
- latent, treatment, mapharsen, 11
- Navy, control, 19
- of mouth, 58
- outbreak in New York State, 211
- primary, pseudocarcinomatous hyperplasia in, 81
- reinfection, criteria of, 267
- secondary, pseudocarcinomatous hyperplasia in, 81
- tests *See* Names of tests
- tertiary cutaneous, pseudocarcinomatous hyperplasia in, 81
- third generation, treatment, 269
- treatment—
  - arsenicals, 198
    - reactions, prevention, 57
  - bismuth, reactions, stomatitis, 63
  - intensive, 11, 12, 198
    - Eagle and Hogan method, 61
    - modified, 36
    - one-day, mapharsen and fever, 191
    - 30 days, 37
  - mapharsen, 11, 36, 37
  - penicillin, 3, 11, 60, 83, 158, 245
    - New Jersey's plan, 3
    - penetration into cerebrospinal fluid, study of, 245
  - review, 60

- abes dorsalis, crisis, treatment, magnesium sulfate, fatal, 37
- ests *See also* Names of tests
  - complement fixation—
    - in human malaria, 250
    - lymphogranuloma venereum, epidemiologic, study of, 9
    - rapid presumptive, for syphilis, 209
  - for syphilis—
    - quantitative, 80
    - slide, 81
    - verification, 81
  - precipitation, viewing device for reading, 202
- xas, Wichita Falls, venereal disease control, 273
- ansportation of gonococci for culture, 114
- eponema pallidum, penicillin, action on, 142
- phoid vaccine, in neurosyphilis, 51

- ited States
  - heart disease in South, study of 1,045 deaths, 203
  - neurosyphilis in, 267
  - paresis in, economic cost, 175
  - venereal disease control—
    - postwar, 189
    - State and Territorial health officers, 168

- Urethritis, gonococcic, treatment, penicillin, dosage, 188
- Uterus, penicillin, clinical action on, 150

- Vaginitis, gonorrheal, in children, treatment, penicillin, one dose, 208
- Venereal diseases *See also* Countries, States, Localities
  - and flying personnel, 16
  - contact investigation, 20
  - control, 256
    - Alabama—
      - mass blood testing, 130
      - Birmingham, 234
    - Armed Forces, Congressional ruling, 19
    - Army—
      - Air Forces, Central Flying Training Command, 5
      - overseas, 66
      - postwar, 88
      - syphilis in inductees, 194
    - British soldiers, 111
    - case finding, 119
    - District of Columbia, 222
      - outpatient clinics, 198
    - England, 45
    - Europe, 205
    - Georgia, evaluation of educational program, 89
    - India, 36
    - Italy, 189
    - Navy, 19, 146
    - New Jersey, 77, 209
      - migrant farm laborers, 116
    - New York State, 211
    - nonmedical officers in Navy, 146
    - Norfolk, Va., case-finding methods in, 120
    - Nova Scotia, 66
    - postwar, 88
    - Selective Service, 19
    - Switzerland, 42
    - United States—
      - postwar, 189
      - State and Territorial health officers, 168
    - Wichita Falls, 273
  - education, 21
    - Army, 266
      - medical officer, duties of, 27
    - in a county jail, 71
    - Negro, 256
      - schools, 245
  - incidence, India, 36
  - in women, social redirection of, 270
  - prophylaxis, sulfonamide-mercury compound, 253
  - punishment for, in Armed Forces ended by Congress, 19
- Viewing device, for reading test tube precipitation tests, 202
- Virginia, Norfolk, venereal disease control, case-finding methods in, 120

- Whichita Falls, venereal disease control, 273
- Workmen's Compensation Acts
  - court decision—
    - syphilitic workman, 23
    - workman acquiring gonorrhea, 45

- Yaws
  - and pinta, 10
    - geographic distribution, 10
  - Nanumea Atoll, Ellice Islands, 82
  - treatment, penicillin, 112

Cases of Syphilis and Gonorrhea Reported for the First Time in States, Territories, a Possessions for the First 8 Months of 1945

Area	Syphilis										Gonorrhea	
	Total [1]		Primary and secondary		Early latent		Late and late latent		Congenital			
	Aug.	Jan.-Aug.	Aug.	Jan.-Aug.	Aug.	Jan.-Aug.	Aug.	Jan.-Aug.	Aug.	Jan.-Aug.	Aug.	Jan. Aug
Alabama	1,194	7,304	228	1,061	365	1,738	272	1,713	38	218	976	6,0
Arizona	116	1,010	21	258	41	281	49	405	4	65	150	7
Arkansas	1,137	11,133	322	3,305	411	3,911	315	3,202	58	421	586	5,2
California	2,739	21,163	530	3,589	661	5,484	1,386	10,484	70	544	2,727	17,9
Colorado	169	1,622	60	440	39	397	69	726	1	59	223	1,5
Connecticut	281	1,614	23	191	27	453	194	725	8	43	135	9
Delaware	29	259	8	70	12	87	5	67	2	21	13	1
Dist. of Col.	305	2,450	73	549	117	771	104	975	3	73	594	4,1
Florida	1,400	11,546	157	1,630	611	4,659	447	3,998	51	345	748	9,3
Georgia	951	7,425	262	1,955	371	2,911	282	2,294	36	252	892	6,3
Idaho	73	466	9	92	14	105	34	211	5	23	65	3
Illinois	1,523	14,632	273	2,490	405	3,548	809	8,174	36	420	2,584	15,6
Indiana	338	4,189	55	784	35	492	135	1,439	6	107	103	1,6
Iowa	83	868	20	200	23	247	29	324	3	39	184	1,4
Kansas	152	1,568	29	313	38	335	80	848	5	72	263	1,4
Kentucky	465	3,263	177	1,029	121	831	109	951	29	164	593	3,9
Louisiana	659	7,190	86	1,586	137	1,964	182	1,763	35	413	653	6,4
Maine	36	443	15	111	1	76	20	196	......	27	78	65
Maryland	953	7,961	158	1,190	208	1,748	183	2,133	17	155	492	3,72
Mass.	253	2,543	64	542	......	......	176	1,866	13	135	349	2,57
Michigan	1,170	10,931	260	2,201	304	3,159	443	4,046	37	243	1,189	7,75
Minnesota	139	857	30	145	25	133	78	507	2	29	324	1,52
Mississippi	1,796	14,385	605	4,554	619	4,789	479	4,321	93	651	2,805	20,58
Missouri	742	6,232	223	1,511	212	1,862	260	2,394	30	248	848	5,23
Montana	31	300	6	58	6	28	6	81	4	22	24	20
Nebraska	155	743	46	145	43	202	59	342	5	26	177	81
Nevada	41	278	19	67	......	11	10	109	......	4	65	47
New Hamp.	29	262	5	41	2	36	19	162	2	16	52	23
New Jersey	958	5,978	123	791	314	1,804	479	3,115	25	204	442	3,03
New Mexico	134	1,334	26	258	38	393	58	588	12	95	87	98
New York	2,134	20,572	492	4,192	503	4,669	1,064	10,986	55	585	[2]1,488	[2]10,98
No. Carolina	514	5,274	173	1,856	204	1,937	117	1,202	20	236	874	5,99
No. Dakota	29	152	7	28	2	26	11	58	3	9	78	34
Ohio	2,338	14,412	529	3,170	576	3,798	982	6,610	84	459	539	3,72
Oklahoma	698	4,683	107	785	177	1,324	214	1,367	44	203	728	6,21
Oregon	137	1,111	44	291	11	147	71	608	5	38	226	1,56
Pennsylvania	821	7,074	215	1,330	298	2,778	271	2,388	26	330	[3]333	[3]1,50
Rhode Island	86	634	20	136	4	51	51	354	5	22	15	26
So. Carolina	624	4,795	205	1,573	177	1,427	165	1,363	60	290	775	4,60
So. Dakota	26	284	9	60	4	66	12	139	......	16	64	35
Tennessee	778	8,040	187	1,635	306	3,357	257	2,791	24	227	1,248	10,36
Texas	1,100	9,187	319	2,517	449	3,986	230	1,959	42	410	1,446	10,97
Utah	20	324	5	66	6	85	9	169	......	11	52	38
Vermont	9	104	1	11	1	24	7	45	......	10	29	20
Virginia	686	6,819	209	2,043	265	2,668	180	1,766	28	292	578	4,83
Washington	328	2,351	71	463	104	650	124	991	10	60	639	3,56
West Virginia	403	2,469	156	1,145	110	610	84	591	17	79	561	3,17
Wisconsin	230	1,342	42	250	12	15	175	1,067	1	10	119	74
Wyoming	18	269	2	61	8	84	3	78	......	2	22	13
Total United States	29,030	239,845	6,706	52,768	8,417	70,157	10,798	92,691	1,054	8,423	28,235	201,11
Alaska	7	106	4	27	......	18	2	12	......	1	23	304
Canal Zone	62	610	13	62	15	157	28	345	1	9	76	585
Hawaii	31	322	3	17	3	29	24	248	1	24	17	240
Puerto Rico	641	5,858	74	670	208	1,980	209	1,698	143	1,456	501	4,813
Virgin Isles	7	132	1	32	5	75	1	22	......	3	4	83
Total U. S. & Possessions	29,778	246,873	6,801	53,576	8,648	72,416	11,062	95,016	1,199	9,916	28,856	207,121

[1] Includes "not stated."

[2] New York City only.

[3] Philadelphia and Pittsburgh only.

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